CIVIL FUNCTIONS, DEPARTMENT OF THE ARMY APPROPRIATIONS FOR 1953

HEARINGS

BEFORE THE

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

EIGHTY-SECOND CONGRESS

SECOND SESSION

SUBCOMMITTEE ON DEFICIENCIES AND ARMY CIVIL FUNCTIONS

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PART 1

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CIVIL FUNCTIONS, DEPARTMENT OF THE ARMY APPROPRIATIONS FOR 1953

WEDNESDAY, JANUARY 16, 1953.

CEMETERIAL EXPENSES, DEPARTMENT OF THE ARMY

WITNESSES

MAJ. GEN. GEORGE A. HORKAN, QUARTERMASTER GENERAL
BRIG. GEN. A. L. MARSHALL, ACTING ASSISTANT FOR ADMINISTRATION
COL. J. B. CLEARWATER, CHIEF, MEMORIAL DIVISION
STUART H. D. FREED, BUDGET ANALYST, OFFICE OF COMPTROLLER, DEPARTMENT OF THE ARMY

CEMETERIAL EXPENSES

Amounts available for obligations

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate	$5,000,000	$4,450,000	$4,472,000
Proposed supplemental due to pay increases		42,000	
Total available for obligation	5,000,000	4,492,000	4,472,000
Unobligated balance, estimated savings	−752,967		
Obligations incurred	4,247,033	4,492,000	4,472,000
Comparative transfer from "Salaries, Department of the Army," Office of the Quartermaster General	358,374		
Total obligations	4,605,407	4,492,000	4,472,000

Obligations by activities

Description	1951 actual	1952 estimate	1953 estimate
1. Procurement of headstones	$1,427,609	$1,405,000	$1,475,000
2. Construction and acquisition of land	800,122	358,260	193,000
3. Maintenance and utilities	301,284	365,000	365,000
4. Operating expenses, including interments	1,718,018	1,938,740	1,939,500
5. Administration	358,374	425,000	499,500
Total obligations	4,605,407	4,492,000	4,472,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Total number of permanent positions	644	657	660
Full-time equivalent of all other positions	37	34	34
Average number of all employees	598	646	670
Average salaries and grades:			
General schedule grades:			
Average salary	$3,500	$3,988	$4,002
Average grade	GS–4.8	GS–5.6	GS–5.7
Crafts, protective, and custodial grades:			
Average salary	$2,755	$3,070	$3,112
Average grade	CPC–3.6	CPC–3.9	CPC–3.9
Ungraded positions: Average salary	$2,700	$2,750	$2,725
01 Personal services:			
Permanent positions	$1,694,701	$1,957,290	$2,037,227
Part-time and temporary positions	78,631	76,055	121,880
Regular pay in excess of 52-week base		7,529	7,538
Payment above basic rates	30,086	22,579	15,892
Total personal services	1,803,418	2,063,453	2,182,537
02 Travel	24,147	22,570	21,956
03 Transportation of things	232,550	265,594	259,963
04 Communication services	20,112	20,415	23,833
05 Rents and utility services	25,000	32,720	44,248
07 Other contractual services	276,734	332,730	321,202
08 Supplies and materials	157,622	180,000	190,680
09 Equipment	1,292,181	1,229,211	1,269,618
10 Lands and structures	797,181	355,760	191,500
15 Taxes and assessments		15,440	21,615
Subtotal	4,628,945	4,517,893	4,527,152
Deduct charges for quarters and subsistence	23,538	25,893	55,152
Total obligations	4,605,407	4,492,000	4,472,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$1,106,562	$1,436,952	$1,328,952
Obligations incurred during the year	4,247,033	4,492,000	4,472,000
Total	5,353,595	5,928,952	5,800,952
Deduct:			
Unliquidated obligations, end of year	1,436,952	1,328,952	1,140,952
Adjustment in obligations of prior years	13,457		
Total expenditures	3,903,186	4,600,000	4,660,000
Expenditures are distributed as follows:			
Out of current authorizations	2,971,075	3,415,000	3,553,000
Out of prior authorizations	932,111	1,150,000	1,100,000
Out of anticipated 1952 supplemental for pay increases		35,000	7,000

Cemeterial Expenses, No Year

Amounts available for obligations

	1951 actual	1952 estimate	1953 estimate
Prior year balance available	$35,912,669	$32,839,802	
Reimbursements from other accounts	69		
Carried to surplus, pursuant to Public Law 203		−27,000,000	
Total available for obligation	35,912,738	5,839,802	
Balance available in subsequent year	−32,839,802		
Carried to surplus		−4,939,802	
Obligations incurred	3,072,936	900,000	

Obligations by activities

Description	1951 actual	1952 estimate	1953 estimate
1. Operating expenses of return program	$1,783,770	$640,000	
2. Expenses at seat of government	1,289,166	260,000	
Obligations incurred	3,072,936	900,000	

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Total number of permanent positions	957	352	
Full-time equivalent of all other positions	129	10	
Average number of all employees	896	151	
Average salaries and grades:			
General schedule grades:			
Average salary	$3,420	$3,870	
Average grade	GS-5.1	GS-4.9	
Crafts, protective, and custodial grades:			
Average salary	$2,818	$3,445	
Average grade	CPC-4.1	CPC-4.8	
Ungraded positions: Average salary	$901	$861	
01 Personal services:			
Permanent positions	$2,249,960	$439,357	
Part-time and temporary positions	39,428	5,840	
Regular pay in excess of 52-week base			
Payment above basic rates	71,414	30,839	
Total personal services	2,360,802	476,036	
02 Travel	291,263	28,204	
03 Transportation of things	146,984	34,221	
04 Communication services	32,545	6,487	
05 Rents and utility services	43,939	20,213	
06 Printing and reproduction	1,780	564	
07 Other contractual services	144,065	96,081	
08 Supplies and materials	18,515	236,339	
09 Equipment	641	891	
13 Refunds, awards, and indemnities	29,105		
15 Taxes and assessments	3,297	964	
Total obligations	3,072,936	900,000	

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$1,690,313	$1,325,089	$650,089
Obligations incurred during the year	3,072,936	900,000	
Total	4,763,249	2,225,089	650,089
Deduct unliquidated obligations, end of year	1,325,089	650,089	350,089
Total expenditures	3,438,160	1,575,000	300,000
Expenditures out of prior authorizations	3,438,160	1,575,000	300,000

General Statement

General Horkan. The estimate for the appropriation "Cemeterial expenses, Department of the Army" for the fiscal year 1953 amounts to $4,472,000 as compared to $4,450,000 appropriated for the fiscal year 1952.

For comparative purposes it should be noted that the amount of $4,450,000 appropriated in 1952 does not include the civilian pay increases authorized by Public Law 201 of the Eighty-second Congress in the amount of $42,000.

HEADSTONES

The funds included in this estimate are for the procurement and distribution of headstones for former military personnel who are interred in private, national, or post cemeteries; as well as for expenses incident to the maintenance and operation of national cemeteries. At the present time this responsibility includes the operation and maintenance of 82 national cemeteries in the United States, 3 national cemeteries in overseas possessions, 17 soldier lots, 3 Confederate cemeteries, 5 national monuments, and 1 memorial park.

The estimate for funds necessary in procuring headstones amounts to $1,475,000, or an increase of $70,000 over fiscal year 1952. It is estimated that the headstones to be purchased will increase by 5,172 in 1953 over 1952 due to a projected increase in the mortality rate of World War veterans.

The amount of $193,000 included for construction includes $15,550 for the acquisition of 23 acres of land in Santa Fe, N. Mex., at approximately $600 per acre. The balance of this project includes only the repair, replacement, and development considered essential.

The estimate of $365,000 for utility services and contractual maintenance will permit the continuation of this function on the basis of a slightly lowered standard as compared with 1952.

The amount of $290,000 included for operating expenses reflects a decrease of $20,000 from the prior fiscal year. This project covers transportation, communication services, supplies and equipment, and the funds included will allow a partial replacement of worn-out equipment.

PERSONNEL

The estimate for field personnel used in the operation of the cemeteries amounts to $1,649,500, or an increase of approximately $21,000 over fiscal year 1952. Of this amount, no funds have been allowed for in-grade promotions or wage board increases; included are funds for the employment of three additional employees for the recently activated cemetery at Denver, Colo., and 13 additional man-years of part-time labor required to augment the present labor force throughout the national cemetery system. It is estimated that there will be an increase in interments of approximately 1,700 over the current year, and past experience indicates that 1 man-year of labor is required for each 140 interments. Further, the number of grave sites occupied in 1952 will increase approximately 18,000 and the experience factor for maintaining these grave sites indicates a requirement of 1 man-year for each 3,000 grave sites.

The estimate for salaries at the seat of government amounts to $499,500 as compared to $425,000 for fiscal year 1952. As in the previous project, no allowance has been included for mandatory in-grade promotions. As of December 31, 1951, the termination of the program for the return of World War II dead made it necessary to transfer to this appropriation those employees who have been performing duties in connection with the interment of World War II dead in our national cemeteries. The remaining cemetery activities in connection with this program will be carried on within the organization financed by this appropriation.

The estimate presented will permit the continuation of present operations on a reduced standard.

That is the over-all picture.

RETURN OF WORLD WAR II DEAD

Mr. RABAUT. What is the status of the program for the return of the World War II dead?

General MARSHALL. The return program is practically completed. We had some 358,000 casualties reported. There have been approximately 280,000 bodies recovered and of these, all have been buried with the exception of approximately 600 on whom we are still working on identification. In addition, there is an unknown number of bodies in areas which we cannot enter. We have been taking action continuously ever since World War II to accomplish recovery.

Mr. RABAUT. Are these areas that you cannot enter?

General MARSHALL. In the Russian zone. That is a continuous proposition and we are doing everything we can.

TRANSFER OF FUNDS

Last year there was an item which indicated a return of $27,000,000. We still have approximately $5,500,000 of which $4,900,000 is being held by the Bureau of the Budget subject to whether we need it and if they approve it.

Mr. RABAUT. You actually have about $600,000.

General MARSHALL. We had about a $600,000 unobligated program balance at the end of October 1951. The bill expired on the 31st of December but provided for those activities necessary to close up cases submitted prior to that date.

RETURN OF KOREAN WAR DEAD

Mr. RABAUT. Are any funds requested herein for the return of those who have died in Korea?

General MARSHALL. Only to the extent of expenses for burial in the national cemeteries of this country. The funds for those who died in Korea are included in the regular estimate we submit for that.

Mr. RABAUT. Have you implemented your plans for the burial of those who have died in Korea?

General MARSHALL. Those plans have been in action since a year ago. We have returned from Korea some 13,000 bodies. We are handling it as I have said.

Mr. RABAUT. The funds for the handling of these bodies are in the regular military appropriation of the defense program?

General MARSHALL. That is right.

PROCUREMENT OF HEADSTONES

Mr. RABAUT. What is the present cost of headstones as compared with 1952 and at the time of the formulation of this budget?

General MARSHALL. The figure quoted in the 1952 estimate was an average of $15.38. The figure used to compute this budget is $14.58. That is an average figure. The reduction from $15.38 to $14.58 is an 80-cent reduction.

Mr. RABAUT. What is the reason for the increase in headstones procurement from 78,481 in 1952 to 83,700 in 1953?

General MARSHALL. That was on account of the mortality rate of the veterans; and it is covered on page 7 of our budget where we break it down and show the carry-over from year to year

and show the applications we are receiving. If you will notice, in the 1952 column on that page, we show an estimated total applications for headstones of 96,893.

The middle figure of the second column, 96,893—that is what we estimated for 1952. As of the 31st of December we have received actual applications for 42,978 stones so our anticipated requirements for 1952 were not too far off.

Mr. RABAUT. What have you carried over?

General MARSHALL. 9,196. It is at the top. We estimated the normal receipts of 74,359 and other applications, including replacements of 13,338 making a total of 87,697 that we would estimate we would receive this year.

Mr. RABAUT. What do you estimate you will carry over from 1953?

General MARSHALL. From 1953?

Mr. RABAUT. Yes, sir.

General MARSHALL. 20,024, as shown in the last figure on the bottom of the page. The normal carry-over is about 10 percent. The estimate authorized here does not cover what we expect as being the full requirement for headstones.

Mr. RABAUT. And you expect to carry over 20,024?

General MARSHALL. 10,368 due to normal processing time. That is as you increase your number, the 10 percent goes up and 9,656 due to insufficient funds, making a total carry-over of 20,024. As a result of the revision the budget has been reduced and the requirement is still there so far as we are concerned.

CONSTRUCTION AND ACQUISITION OF LAND

CEMETERIES

Mr. RABAUT. Will you bring up to date the table appearing on page 711 of last year's hearings, entitled "Data, National Cemeteries, Fiscal Year 1952 Budget."

This shows the acreage available for burial purposes in the national cemeteries and the percent filled?

General MARSHALL. Yes, sir.

(The matter referred to is as follows:)

Data national cemeteries, fiscal year 1953 budget

National cemetery	Acreage available for burial purposes	Percent filled Dec. 31, 1951	Additional acreage being requested fiscal year 1953 budget
First Army Area:			
Beverly, N. J.	56.1	17	
Cypress Hills, N. Y.	17.2	99	
Finn's Point, N. J.	4.0	100	
Long Island, N. Y.	341.62	19	
Woodlawn, N. Y.	6.4	84	
Second Army Area:			
Annapolis, Md.	3.75	100	
Balls Bluff, Va.	.057	100	
Baltimore, Md.	57.0	31	
Camp Nelson, Ky.	8.6	80	
Cave Hill, Ky.	4.0	100	
City Point, Va.	8.19	84	
Cold Harbor, Va.	1.75	100	
Culpeper, Va.	6.37	61	
Danville, Ky.	.31	96	
Danville, Va.	3.13	77	

Data national cemeteries, fiscal year 1953 budget—Continued

National cemetery	Acreage available for burial purposes	Percent filled Dec. 31, 1951	Additional acreage being requested fiscal year 1953 budget
Second Army Area—Continued			
Fort Harrison, Va	1.55	69	
Glendale, Va	2.0	64	
Grafton, W. Va	2.88	94	
Hampton, Va	26.52	93	
Lebanon, Ky	2.72	61	
Lexington, Ky	.75	100	
Loudon Park, Md	5.2	95	
Mill Springs, Ky	3.17	52	
Perryville, Ky	0	0	
Philadelphia, Pa	12.82	99	
Richmond, Va	9.54	81	
Seven Pines, Va	1.45	81	
Staunton, Va	1.15	87	
Winchester, Va	4.69	92	
Zachary Taylor, Ky	15.13	53	
Third Army Area:			
Andersonville, Ga	108.19	25	
Barrancas, Fla	25.58	20	
Beaufort, S. C	27.08	55	
Chattanooga, Tenn	114.82	40	
Corinth, Miss	18.27	43	
Florence, S. C	5.32	76	
Knoxville, Tenn	9.47	78	
Marietta, Ga	21.63	88	
Memphis, Tenn	41.97	74	
Mobile, Ala	4.23	68	
Nashville, Tenn	57.96	66	
Natchez, Miss	10.30	87	
New Bern, N. C	7.0	60	
Raleigh, N. C	6.46	54	
Salisbury, N. C	5.43	90	
St. Augustine, Fla	1.07	100	
Wilmington, N. C	4.53	80	
Fourth Army Area:			
Alexandria, La	7.52	59	
Baton Rouge, La	6.95	82	
Fayetteville, Ark	4.1	63	
Fort Bliss, Tex	58.0	11	
Fort Gibson, Okla	26.2	79	
Fort Sam Houston, Tex	58.07	31	
Fort Smith, Ark	14.81	36	
Little Rock, Ark	22.81	60	
Port Hudson, La	7.5	70	
San Antonio, Tex	3.38	96	
Santa Fe, N. Mex	8.61	53	23
Fifth Army Area:			
Alton, Ill	.23	73	
Black Hills, S. Dak	100.6	.5	
Camp Butler, Ill	38.75	15	
Crown Hill, Ind	1.37	100	
Denver, Colo	152.0	.5	
Fort Leavenworth, Kans	19.64	58	
Fort McPherson, Nebr	18.4	24	
Fort Scott, Kans	8.63	32	
Fort Snelling, Minn	177.81	15	
Jefferson Barracks, Mo	197.19	24	
Jefferson City, Mo	1.51	80	
Keokuk, Iowa	19.58	16	
Mound City, Ill	7.25	95	
New Albany, Ind	5.0	87	
Quincy, Ill	.45	72	
Rock Island, Ill	26.38	19	
Springfield, Mo	11.82	37	
Sixth Army Area:			
Fort Rosecrans, Calif	27.79	53	
Golden Gate, Calif	148.847	33	
San Francisco, Calif	24.26	99	
Willamette, Oreg	180.5	.4	
Military District of Washington:			
Alexandria, Va	3.87	74	
Arlington, Va	340.4	68	
Soldiers' Home, D. C	15.27	84	
Sitka, Alaska	.74	57	
Puerto Rico	75.0	1	
National Memorial Cemetery of Pacific	40.0	50	

SANTA FE NATIONAL CEMETERY, COLO.

Mr. RABAUT. What is the need for the additional 23 acres in Santa Fe at a price of $600 per acre?

General MARSHALL. The present cemetery will last until 1965. Normally, we would not purchase this additional land at this time but the cemetery is located adjacent to Santa Fe which is rapidly spreading and the housing developments are encroaching on the cemetery. We either buy it now or do not get it except at a much higher price.

Mr. RABAUT. What would that be in mileage?

General MARSHALL. It is a corner of the town. It is immediately adjacent to the town. I would say it would not be over half a mile. I am familiar with the area and it is not quite half a mile.

Mr. RABAUT. What is the size of the cemetery now?

General MARSHALL. The present cemetery has 9 acres.

Mr. RABAUT. You want to add 23 acres?

General MARSHALL. To bring us up to the year 2000, which is the figure we have been using for our target for all our cemeteries if possible.

JEFFERSON BARRACKS NATIONAL CEMETERY, MO.

Mr. RABAUT. What is the need for the additional development of 13 acres at Jefferson Barracks?

General MARSHALL. You will notice, sir, at page 12, the present available grave sites will last us until 1956. We must therefore start now in 1953 to develop additional acreage. This being a part of the old post, there are a number of concrete slabs, underground installations, and roadways and other impediments. The ground must be prepared and allowed to settle quite normally. That takes 3 or 4 years before the land is available for use. It is a development of ground within the cemetery. But we must develop it far enough ahead to have it when we need it.

DENVER NATIONAL CEMETERY, COLO.

Mr. RABAUT. What is the need for the development of the 5 acres of the Denver cemetery?

General MARSHALL. The Denver cemetery is a recently activated national cemetery. It has been a post cemetery and now we have developed it as a national cemetery. We must develop sufficient grave sites to last beyond 1956. The present acreage will carry us until 1956; so, again we must start with the development and the necessary activities to have it ready.

You will notice on page 12 there is a breakdown of what we plan to do because of the fact that it has just recently been made a national cemetery. There are certain requirements we have to put in to bring it up to the standards that Congress wants.

ADMINISTRATION

Mr. RABAUT. What is the reason for the increase in the item "Administration" from $425,000 for 1952 to $499,000 for 1953?

General MARSHALL. The estimate of $425,000 proposed in 1952 was to cover at that time 152 positions or 112 man-years. With the pay

increase recently voted by Congress, we can only pay for 99 man-years. The $499,000 does include the pay increase which accounts for part of the difference between $425,000 and $499,000. The balance of it is principally for full-time employment in 1953 of employees on the rolls for the last half of the fiscal year 1952. In other words, with the dollars available we can only pay for 99 man-years in 1952 and we are asking for 120.

Mr. RABAUT. How many do you have employed now?

General MARSHALL. 124. This estimate will only provide for our existing strength, and the difference is for the lapses that take place when a man quits. This is regardless of the fact that our direct load has increased in units of measurement. As General Horkan has indicated in his statement, we can continue only on a reduced base.

WORKLOAD DATA

Mr. RABAUT. Is your work current?

General MARSHALL. No sir.

Mr. RABAUT. Is it in conformity with past performance?

General MARSHALL. No, sir. I might give you that in an illustration on headstones. The normal carry-over, as you see on page 7, is between 9,000 and 9,600. At the present moment we are 12,000 applications behind. We have run intensive work studies, and we find it takes 1½ hours for one man to process one application from the time it is received, checked and verified, to the time of issuance of the purchase order. Multiply that by the number of headstones and it is evident that we cannot keep up to the standard we have now.

Mr. RABAUT. You said awhile ago you needed 5,172 additional headstones?

General MARSHALL. That was the increase over 1952 as carried in this budget—78,481 to 83,653. But, if you notice, in the total we are carrying over another 9,600 because of the limitations of this budget.

Mr. RABAUT. One of the reasons for this carry-over is the lack of personnel?

General MARSHALL. It is the limiting figure on this part of the budget, on the procurement of the headstones. That is the reason we are carrying 9,600 headstones over. We say, briefly, we are going to get 85,200 applications.

(Discussion off the record.)

AUTOMOBILES

Mr. RABAUT. What is the need for the two new motor vehicles requested?

General MARSHALL. There are two sedans worn out at Arlington Cemetery. One is a 1939 Plymouth with 77,424 miles, and one a 1939 Plymouth with 61,072 miles.

Mr. RABAUT. How many other cars do you have?

General MARSHALL. They are the only two to be purchased.

At Arlington we have in addition one 1939 Plymouth with 51,000 miles; one 1940 Chevrolet with 61,100 miles and two vehicles to be replaced in 1952. These are at Arlington.

At Long Island we have one 1947 Plymouth with 47,000 miles. And at Golden Gate one 1952 automobile to be purchased.

There is another car at Arlington: a 1947 Plymouth with 9,447 miles. So, we are requesting funds to replace two of the 1939 cars at Arlington with the intention of replacing two more later on.

Mr. RABAUT. What is the use of these cars?

General MARSHALL. The transportation of the friends that come from the chapel to the grave site or from the entrance.

Mr. RABAUT. As they come to visit?

General MARSHALL. No. For the funeral.

(Discussion off the record.)

General MARSHALL. The cars are also naturally used for the Superintendent and Assistant Superintendent in making an inspection of Arlington, which is a pretty large cemetery.

RENTAL OF LIVING QUARTERS

Mr. RABAUT. What change have you made in your policy relating to the rental of living quarters to your employees?

General MARSHALL. An increase is planned in the rental deducted from their pay. In 1952, the total rental deducted was $25,893. In 1953, the deduction will be $55,152.

Mr. RABAUT. Are there any new units? Does this figure apply to the same rental property as before?

General MARSHALL. The same properties as in 1952. There are no new properties to account for the increase. There is to be an increase for the rental to be charged.

Mr. RABAUT. Is it just a change in rental for the same property?

General MARSHALL. That is right.

Mr. RABAUT. What is the increase in the return to the Government on a percentage basis?

General MARSHALL. Against the salary. We increase the rental allowance by 100 percent. We just double it.

Mr. RABAUT. Are there any complaints about it?

General MARSHALL. We have not heard of any yet. It is yet to be applied; so we do not know.

Mr. RABAUT. Are the rents to be collected there now in keeping with the normal rents of other property?

Colonel CLEARWATER. The rates as they will be applied are generally in keeping with the same type of property as in the immediate vicinity. We have received inquiries from the various Army areas and the Military District of Washington which indicate that protests will be received against the increase, and in some instances it is indicated that the superintendents who are occupying the quarters will be paying for quarters larger than the needs of their families would indicate.

Mr. RABAUT. There is no intention of doing injustice to anybody, but some of these things are altogether out of line with oridnary business practice, and I think that was brought to the attention of the Department last year. On what date do these increases start?

General MARSHALL. We do not have the answer yet. That is a directive that has gone from top side to the field. We do not handle this angle of it from our office.

General HORKAN. We will have it for you this afternoon.

Mr. RABAUT. We want to know about the effective date at once. Otherwise, it will go dragging on ad infinitum.

Mr. FORD. Mr. Chairman, may I make a suggestion? Would it be possible to make a breakdown for the record. That will make this possible—the ones that will be put into effect.

General HORKAN. We will furnish a breakdown for the record.

(The information referred to is as follows:)

DEDUCTIONS FOR SUPERINTENDENTS' QUARTERS

A Department of Defense regulation providing for revised rent charges for quarters supplied to civilian employees is scheduled to be published approximately February 1, 1952. This regulation will be placed into effect as rapidly as feasible, in no case later than July 1, 1952.

This fiscal-year-1953 estimate provides for an approximate 20-percent salary deduction for quarters provided to national-cemetery superintendents. This amounts to $55,152 in this estimate and is the amount specified by the Bureau of the Budget in prescribing their allowances.

It is anticipated that an increase of 100 percent in the rental deductions charged superintendents will meet with considerable unfavorable reaction, since in many instances superintendents are assigned to quarters too large or too small for their individual needs, and the rental deduction is too large in comparison to their salaries. Superintendents by law (24 U. S. Code 274) are required to live at cemeteries for the "purpose of guarding and protecting the cemetery."

The comparable figure for the 1952 estimate is $25,893. The following tabulation shows the fiscal-year-1952 and fiscal-year-1953 quarters deductions expected to be made from each superintendent for quarters furnished.

Deductions for superintendents' quarters for fiscal year 1952 and fiscal year 1953

Cemetery	Fiscal year 1952	Fiscal year 1953	Cemetery	Fiscal year 1952	Fiscal year 1953
Beverly, N. J	$382.50	$788.58	St. Augustine, Fla	$335.00	$693.75
Cypress Hills, N. Y	382.50	788.58	Wilmington, N. C	322.50	668.80
Finns Point, N. J	322.50	674.79	Alexandria, La	322.50	668.80
Long Island, N. Y	460.00	998.21	Baton Rouge, La	345.00	713.72
Woodlawn, N. Y	322.50	668.80	Fayetteville, Ark	322.50	668.80
Annapolis, Md	322.50	668.80	Fort Bliss, Tex	382.50	788.58
Baltimore, Md	420.00	863.45	Fort Gibson, Okla	322.50	668.80
Camp Nelson, Ky	322.50	668.80	Fort Sam Houston, Tex	382.50	838.50
City Point, Va	322.50	668.80	Fort Smith, Ark	322.50	668.80
Cold Harbor, Va	322.50	668.80	Little Rock, Ark	357.50	763.63
Culpeper, Va	322.50	668.80	Port Hudson, La	322.50	668.80
Danville, Ky	322.50	668.80	San Antonio, Tex	335.00	693.75
Fort Harrison, Va	322.50	668.80	Santa Fe, N. Mex	322.50	688.76
Glendale, Va	322.50	668.80	Black Hills, S. D	322.50	668.80
Grafton, Va	322.50	668.80	Camp Butler, Ill	335.00	688.76
Hampton, Va	345.00	763.63	Denver, Colo		688.76
Lebanon, Ky	322.50	668.80	Fort Leavenworth, Kans	345.00	763.63
Loudon Park, Md	322.50	668.80	Fort McPherson, Nebr	322.50	668.80
Mill Springs, Ky	322.50	668.80	Fort Scott, Kans	322.50	668.80
Philadelphia, Pa	345.00	713.72	Fort Snelling, Minn	457.50	863.45
Richmond, Va	345.00	713.72	Jefferson Barracks, Mo	420.00	863.45
Seven Pines, Va	322.50	668.80	Jefferson City, Mo	322.50	668.80
Staunton, Va	322.50	668.80	Keokuk, Iowa	322.50	668.80
Winchester, Va	322.50	668.80	Mound City, Ill	345.00	713.72
Zachary Taylor, Ky	345.00	713.72	New Albany, Ind	322.50	668.80
Andersonville, Ga	382.50	788.58	Rock Island, Ill		688.76
Barrancas, Fla	345.00	713.72	Springfield, Mo	345.00	713.72
Beaufort, S. C	345.00	713.72	Fort Rosecrans, Calif	382.50	788.58
Chattanooga, Tenn	395.00	838.49	Golden Gate, Calif	460.00	998.20
Corinth, Miss	345.00	713.72	San Francisco, Calif	382.50	788.58
Florence, S. C	322.50	668.80	Willamette, Oreg	345.00	713.72
Knoxville, Tenn	322.50	688.76	Alexandria, Va	322.50	668.80
Marietta, Ga	382.50	788.58	Arlington, Va	560.00	1,157.92
Memphis, Tenn	382.50	788.58	Soldiers' Home, D. C	345.00	713.72
Mobile, Ala	322.50	688.76	National Memorial Cemetery of the Pacific	432.50	888.41
Nashville, Tenn	382.50	788.58	Puerto Rico	360.00	668.80
Natchez, Miss	322.50	668.80			
New Bern, N. C	322.50	668.80			
Raleigh, N. C	322.50	668.80	Total	25,892.50	55,151.96
Salisbury, N. C	322.50	668.80			

IMPROVEMENTS

Mr. KERR. What amount do you ask for the adornment of the cemeteries?

General MARSHALL. As far as straight adornment, Mr. Chairman, you will notice that in project 211, it starts at page 10. There are, "Repairs to superintendent's lodge; correction of faulty drainage condition in a burial area."

The next item is Denver National Cemetery, a new cemetery, and the items include creating drainage, enclosure fence and main entrance gate, utility building, and topsoiling.

At Jefferson Barracks, this is for development of land. That is all. At Mound City, Ill., a new septic tank. At Santa Fe it is acquisition of land.

Mr. KERR. Now, down in Denver, you have to have an additional amount of land.

General MARSHALL. No, sir; we have the land there. It is part of the old post and we are only developing about 5 acres of it.

Mr. KERR. Five acres of it?

General MARSHALL. Yes, sir.

(Discussion off the record.)

General MARSHALL. Mr. Chairman, if I may go on the record and offer one correction, there is in this estimate a certain number of trees and shrubs to replace those blown down or damaged. There are no new ones except for replacement.

General HORKAN. And that will be native shrubbery I assure you. No foreign trees.

(Discussion off the record.)

Mr. KERR. You say you are using 5 acres more in Denver?

General MARSHALL. This is the original 5 acres. It is a new cemetery. It is the old post cemetery.

Mr. KERR. Does it adjoin the old cemetery?

General MARSHALL. It is the old cemetery and the project will be the partial development of 3.2 acres and full development of 1.8 acres.

NATIONAL MEMORIAL CEMETERY OF PACIFIC

Mr. DAVIS. Generally, we have been hearing considerable discussion both from our colleagues and in the newspapers regarding the National Memorial Cemetery of the Pacific in the Territory of Hawaii. I wonder if you would submit to the committee a documentation of the background of the change to the flat type of marker which has been instituted in that cemetery.

FLAT TYPE OF HEADSTONE

General HORKAN. I will prepare a statement in writing and submit it to the committee within the next 48 hours.

(The information requested is as follows:)

STATEMENT ON REMOVAL OF TEMPORARY MARKERS AT NATIONAL MEMORIAL CEMETERY OF THE PACIFIC

Plans for this cemetery were laid in 1948. At this time, considerable thought was given to the type of monument which would be used to mark the individual graves. Leading citizens and civic organizations were consulted. These con-

sultations resulted in a majority expression favoring flush monuments of the type now widely favored in this country.

By midsummer of 1949 the cemetery was sufficiently complete to permit public funeral ceremonies. Prior to this time, however, military funerals had been held for the interment of unknown dead and for those whose families had stated their inability to attend funeral services. At all such ceremonies, ministers of the three predominant faiths conducted the religious rites. In all other cases, funeral services were conducted according to the wishes of the family concerned. Many of the Hawaiian war dead were of the Buddhist faith and services were conducted by priests of that faith.

At the outset of interments, it was well understood and agreed that pending the inscribing of monuments and their placement, graves would be marked temporarily by simple wooden crosses. There was a reluctance among those of the Buddhist faith to have the graves thus marked but, since the crosses were understood to be temporary, agreement was reached.

The cemetery was dedicated on September 2, 1949. Interments continued in considerable numbers after that time. In the interest of maintaining the appearance of the cemetery, crosses remained in place until the dead of World War II had been interred and the monuments had been emplaced. These interments have now been accomplished. The landscape plan of the cemetery has continued based on the type of monument that had been agreed upon. These monuments are appropriately inscribed according to the religious faith of the interred: Christian, Jew, Buddhist.

Now that all monuments had been emplaced, it was possible to remove the crosses without marring the appearance of the cemetery. This was the agreed upon procedure, known and announced to all through the public press as early as 1948. This was not a snap judgment. It was a well considered procedure which took into account the religious beliefs of all of those American war dead who were to be interred. There is no affront to anyone's religious beliefs in the removal of the crosses.

Crosses do not mark the dead of our country in other national cemeteries. No cross marks the burial place of our revered Unknown Soldier in Arlington.

At this time, there are three House proposals on the markers on which the Department of the Army is preparing a report to be submitted to the appropriate committee. These are House Joint Resolutions 338, 342, 343.

Under date of April 20, 1948, the Department of the Army requested the commanding general, United States Army, Pacific, to furnish all available data regarding the local use of flat markers of various types, including their acceptability to local individuals, groups, and faiths and an estimate of local preference; indicating that this information was to be used as a basis of a study of the desirability of using flat markers in the National Memorial Cemetery of the Pacific.

This was answered under date of April 27, 1948, by a message from the commanding general, United States Army, Pacific, advising that although past custom had favored upright markers, the current trend was toward flat types, there was apparently no objection among local groups and faiths to flat markers, and that a local editor had suggested a news story requesting that opinions on the subject be sent him.

Under date of May 17, 1948, the Department of the Army advised the USARPAC that pending legislation would leave the use of flat or upright markers in national cemeteries to the discretion of the Secretary of the Army, that the matter of the type of markers was under study, and that it was not considered advisable to conduct a poll on flat versus upright markers.

By August 20, 1948, as a result of study of the matter, it was recommended that no change be made from the use of upright markers in all national cemeteries.

On October 25, 1948, United States Army, Pacific addressed a letter to The Adjutant General, advising that—

"The informal public opinion survey referred to in enclosure No. 2 (message April 28, 1948) was based upon the attitudes of a limited number of individuals. Since the time of the survey informal comments from civilians indicate that the attitude of local groups is overwhelmingly in favor of flat grave markers in the National Memorial Cemetery of the Pacific. This attitude is based chiefly upon the greater beauty which can be achieved if all markers are flush with the ground. This is particularly important since a number of residential areas overlook Punchbowl Crater which is located in the heart of Honolulu.

"This headquarters strongly recommends that only flat grave markers be installed in the National Memorial Cemetery of the Pacific for the following reasons:

"(*a*) Local civilian preference.

"(b) Beauty: Long vistas of green grass broken only by shrubbery present a more pleasing appearance than rows of stone slabs.

"(c) Economy of cemeterial maintenance: The cost of mowing, trimming, and watering the grassed areas will be materially reduced by elimination of 25,000 upright tombstones which present obstacles to maintenance equipment

"(d) Reduction of replacement costs: The periodic earthquakes to which Oahu is subject cause upright markers to tip, fall, and crack."

Under date of November 26, 1948, the Quartermaster General recommended to the Director of Logistics, GSUSA, that on the basis of the representations made by USARPAC, authority be granted for the exclusive use of flat granite markers in the National Memorial Cemetery of the Pacific.

On December 7, 1948, the Director of Logistics concurred in the recommendation, and advised that action was being taken to advise the CGUSARPAC of the approval of the use of the flat markers.

(Discussion off the record.)

TRANSFER OF FUNDS

Mr. DAVIS. General, you mentioned the transfer of the funds on the World War II program to this appropriation after it had been under a separate one. Are we to assume that this increase now is something that will be confined to this fiscal year while that program is being completed?

RETURN OF WORLD WAR II DEAD

General MARSHALL. I would like to answer that, sir. World War II program not only affected national cemeteries but the actual return and interment of remains. Presently the return and transportation costs of remains are now being placed into the proper parts of the military budget. After the body moves to the cemetery this program takes over. Heretofore, in Washington and in the field, we had people hired to handle the paper work necessary in processing the applications and keeping the records of the burials and all the other operational requirements under the World War II appropriation.

We must maintain the same records and keep up that part of the program as far as the national cemeteries are concerned.

In 1951 we had 93 people charged against this appropriation. It was our plan to transfer enough people to bring the total to 152, beginning the transfer on January 1. The ceilings that have been imposed and the reductions imposed across the board will only permit us to raise the number to 124 or 99 man-years. We will not be able to do as much as we had planned to do.

In 1953 we planned for 124 positions or 120 man-years to try to recover part of what we were losing. We have 124 people right now but the years of work will not equal that number in 1952 because they were not transferred as of July 1. So, it is a projection of the number of people we have now and an increase in the man-years. That is what it amounts to in effect. The difference between 93 and 124 is to provide for the taking over of the work which must still go on.

ADDITIONAL WORKLOAD

Mr. KERR. The work is increasing each year?

General MARSHALL. Yes, sir. Each year the work increases because the mortality rate of veterans will increase. World War I mortality rate increases until about 1966 and then you will begin to

pick up an increase in the mortality rate of World War II. So far as the national cemeteries are concerned, you never decrease. Even after we close the cemetery we must still maintain it for the public.

PERSONNEL LEAVE CHANGE

Mr. DAVIS. In your explanation of increased costs due to the salary raise voted by Congress, I did not hear you mention anything about being able to get along with less people because of the decrease in Federal leave. Was that taken into consideration in your figures with respect to the man-years required?

General MARSHALL. Very definitely, sir. As a matter of fact the decrease in Federal leave as far as our people are concerned in the offices of the Quartermaster General won't amount to very much because we have been losing leave every year. We are not able with our work to give the full leave. We have not year after year for the last 3 years.

WORKLOAD STUDIES

We have conducted detail workload studies. I have right now a workload study conducted in this particular division which determines the unit of the work and determines how long it took to do that work. We took into consideration that there are 5 days work a week and a number of holidays including annual leave so you come up with 1776 man-hours of work per year. Divide that into your full year's cost and you come up with the cost per man-hour. We have gone that far.

In this particular division we have run so far behind that I have the management people make a management survey to see whether this activity can be streamlined more than it is.

Mr. DAVIS. So as far as your particular operation is concerned, the only real saving that will come to the Government due to the decrease in leave will be at the time of separation from employment. There will be less of an accumulation that has taken place. The actual personnel cost you have not been able to cut.

General MARSHALL. We went into that very thoroughly when we went into our budget with the Bureau of the Budget and had quite an extensive study made of it.

AUTOMOBILES

Mr. DAVIS. I gathered generally from your previous discussion that there are only three or four cemeteries where you have automobiles.

General MARSHALL. Arlington, Long Island, and Golden Gate.

Mr. DAVIS. Is Arlington that much bigger?

General MARSHALL. It is the activity. Ten to fifteen burials a day occur there. There are high ranking personnel involved and in addition there are many others attending at the same time. With that many burials per day you have two or three burials going on at the same time; so you have these cars taking the people to various locations.

Mr. DAVIS. What automobiles did you get last year?

General MARSHALL. Two replacements and one additional.

I think you will notice that in the language change sheet in the front of the budget.

Mr. DAVIS. Then what is the explanation of the listing of all these old models?

General MARSHALL. I think I listed one 1952.

General HORKAN. There was one with 9,000 miles on it.

Mr. DAVIS. That was a 1947.

General MARSHALL. I read you two cars, one a 1939 Chevrolet with 83,000 miles and one 1939 with 101,000. This will be replaced in 1952. These two and one at Golden Gate are the ones to be purchased this year.

UTILITIES

Mr. DAVIS. What is the explanation of a water charge that you are going to have to pay which you have been getting from the military without charge?

General MARSHALL. That is right. At Fort Rosecrans, Calif., we have been getting our water on the post free. As you know, there is a tremendous cost-conscious program making the rounds now and each post is protecting its own rights and eliminating from the cost of that post anything they do not use. So they tell us now that we must pay for the water because it shows up in the charges against the post and that makes sense.

BUREAU OF THE BUDGET REQUESTS

Mr. FORD. General, what did you request of the Bureau of the Budget for 1953?

General MARSHALL. Our estimate to the Bureau of the Budget amounted to $5,719,425. If you would like comparative figures, on page 3, sir, by projects I will indicate where we applied that. In project 111 where we ask for $1,475,000 we had $1,642,900. That is the reason for the carry-over of applications for headstones. For construction it was $785,200. It is now $193,000.

Mr. FORD. What were the items deleted?

General MARSHALL. Quite a number, sir. There is some construction at Rosecrans, Calif.; Fort Smith, Little Rock, New Albany, Beverly, Camp Butler, Chattanooga, Corinth, Miss., Fort Gibson, Golden Gate, Long Island, Mound City was reduced, National Memorial Cemetery of the Pacific, Rock Island Cemetery and an elimination of the planning for the memorial group authorized by law.

Mr. FORD. Was there any cutting out of funds for the purchase of land for new cemeteries?

General MARSHALL. No reduction on that. No acquisition of land in these figures.

Mr. FORD. Would you mind itemizing the other?

General MARSHALL. Yes, sir. For project 311 the estimate presented to the Bureau of the Budget amounts to $400,000 and was cut to $365,000.

Mr. FORD. When you say project 411?

General MARSHALL. 311 covers maintenance and utilities. 411 covers operating expenses, including interments $347,200. The amount is now $290,000. Project 412, covering personal services in the field, was originally $1,853,534 and is now $1,649,500.

Project 711, salaries at the seat of government here in Washington amounted to $690,591 and is now $499,500. As to project 711, inasmuch as we were discussing it, an original request was for 169 positions and 164 man-years.

PAY INCREASE

Mr. FORD. In the budget for 1953 and for the remaining portion of 1952, is there any provision for the absorption of the proposed military pay increase?

General MARSHALL. That would not occur in this budget.

Mr. FORD. In other words, the military in uniform in this Department, their salary is not paid from this budget?

General MARSHALL. Not from this appropriation. There is one appropriation for pay in the Army for all officers and military people.

Mr. FORD. Regardless of where they may be assigned?

I notice that there is a comment to the effect that the civilian pay increases authorized by Public Law 201 of the Eighty-second Congress has not been handled in the 1952 budget. Does that anticipate a supplement?

General MARSHALL. Yes, sir. If you notice on page 2, there is an item at the last of $42,000. That is the expected deficiency in the bill. Now, we were concerned with the $42,000. You will notice under project 412 we show estimated obligations for 1952 of $1,628,000. That is $42,000 more than the appropriation was in 1952 so the pay increase is in there to the extent of $42,000.

Mr. FORD. You have adjusted the figure?

General MARSHALL. We have adjusted it in the field. In the departmental it does not show. We are required to pay all the pay increases and apply them against this. In the departmental if we meet the same obligation we would have a figure of $36,961 but instead of that we have been directed to absorb it. So the man-years available to us out of an appropriation which would have paid for 112 is now 99. That is, where the pay increase is for departmental employees, we have absorbed it by reduction of personnel.

Mr. FORD. I am not quite clear. Do you intend to absorb it or will there be a request for a deficiency?

General MARSHALL. There will be a request for the deficiency of $42,000 shown in this budget under our existing instructions. It may change.

We have requested authority to get the pay increase for departmental positions. That is where it will hurt the worst. If that is approved we will have a request later to cover this pay increase. The total was $41,815 but we are absorbing part of that cost in lapses.

ACQUISITION OF LAND

Mr. FORD. According to the justifications you are paying $600 per acre at Santa Fe, M. Mex. Do you go through the process of condemnation or is it negotiation which results in that price?

General MARSHALL. It is both. The actual acquisition of land is in the Corps of Engineers and they go through the usual procedures of negotiation or condemnation. We go to the point of asking them to get the land for us.

Mr. FORD. Do you know whether they contemplate negotiation or condemnation?

General MARSHALL. We have had no indication that they will require condemnation at this time.

Mr. FORD. Do you have any jurisdiction on the price you pay?

General MARSHALL. If it is within the estimate and the price appears to be reasonable we say, "Yes." If it is found that it is not, we say, "No." We just do not have any more money.

Mr. FORD. On what basis do you make your estimate?

General MARSHALL. On the engineer estimate of the value of the land as pertaining to surrounding land. The value of the land in that vicinity. The engineers make a survey of the land required in the area around the cemetery and where the best place is and the most reasonable land. They compare it with other land in the vicinity. That survey is pretty carefully made and they go into it thoroughly before they give us an estimate.

In the case of Beverly we estimated the land at $2,000 and we got it at $1,800.

DENVER NATIONAL CEMETERY, COLO.

Mr. FORD. I am somewhat at a loss to understand the decision on Denver for this reason. I believe 2 or 3 years ago there was a bill introduced in Congress for some extensive development and expansion at Denver. That bill, to my knowledge, was never approved in the Congress, and now I find there is a program there for development of a cemetery or reactivation of the previous cemetery.

Colonel CLEARWATER. That was submitted to the Bureau of the Budget last year and knocked out. We asked for the improvement of that cemetery. It was in the last year's budget but never got to the committee.

Mr. FORD. I am referring to an authorizing bill which was before the Congress sponsored by Senator Milliken and Representative Carroll. The bill in the House was not approved as I recall. Now I find the funds are requested.

As I recall the facts, there was an old post cemetery. Senator Milliken and Congressman Carroll had a tremendous expansion of that cemetery in mind and to do so they had to get the bill to authorize the extension. That bill was not approved, to my knowledge. Now I find we are going to spend money expanding the cemetery and wonder how you are going to do it.

General MARSHALL. Without knowing the details of that, Public Law 453 of the Eighty-first Congress authorized the extension of the cemetery.

Mr. FORD. What was the date of that law?

General HORKAN. I think maybe you had better get the facts on that and submit them to the reporter here to get these facts straight. There has been considerable discussion and legislation with respect to that cemetery, as to the name of that cemetery and I think, instead of confusing the issue we had better get the facts and submit them for the record.

Mr. FORD. I wish you would. And would you also send a copy of the statement you include in the record to me?

General HORKAN. Yes.

(The information requested is as follows:)

ESTABLISHMENT OF DENVER NATIONAL CEMETERY

Public Law 453, Eighty-first Congress, approved March 10, 1950, authorized and directed the Secretary of the Army to establish and to provide for the care and maintenance of a national cemetery of not more than 160 acres, utilizing "such of the federally owned lands under the jurisdiction of the Department of the Army at Fort Logan, Colo., as are not needed for military purposes." Subsequent to enactment of Public Law 453, the existing Fort Logan post cemetery was established as the first unit of the national cemetery and interments were authorized. It was originally intended that the first unit of the Denver National Cemetery to be developed would be 12 acres located in a 155-acre tract located approximately one-half mile south of the post cemetery and funds in the amount of $205,000, were included in the fiscal year 1952 budget request; this amount was deleted by the Bureau of the Budget. The fiscal year 1953 budget request includes $82,200 for development of the former post cemetery.

Mr. FORD. What was the law number that was cited?

General MARSHALL. No. 453, Eighty-first Congress.

General HORKAN. I know there has been considerable legislation and discussion about that cemetery and I feel it would be better if we got the facts and submitted them to you.

General MARSHALL. This land is Government land to start with.

Mr. FORD. I frankly cannot recall all the details but there was considerable opposition to the suggested expansion.

General MARSHALL. Well, I think we will be better off to get the facts.

PROCUREMENT OF HEADSTONES

Mr. FORD. Gentlemen, I wonder if you can explain how you go about the process of procuring these markers. You have these bids and then award the contract to the lowest bidder?

General MARSHALL. Once a year we advertise for bids on a given number of markers. These bids are spread throughout the industry. Upon the submission of the bids and the opening of the bids a contract is awarded to three, four, or five bidders because one could not take care of them all. And during the year as the application is received, depending on the location of the applicant, as compared with the source or the type, that application is processed and an order is sent to the local quarry with necessary instructions for carving and shipment.

Mr. FORD. Do you get extensive bidders on such bids?

General MARSHALL. We get quite a number of them.

Mr. FORD. Pretty active competition from them?

General MARSHALL. Yes.

Mr. KERR. Has that method been pursued over a number of years?

General HORKAN. Yes, sir.

General MARSHALL. Yes, sir.

OTHER CONTRACTUAL SERVICES

Mr. FORD. Turning to page 2 of the justifications, item 07 entitled "Other Contractual Services." These are services performed by other agencies $321,202. What are those services?

General MARSHALL. I will explain the reason for that. If you will notice on page 3 you have a breakdown by project. Each project includes what we call these objective classifications—01, 02, 03, 07, and so forth. 01 is personal services; 07 is contractual services. The 07 on page 2 summarizes the 07 in each project.

On page 17, you will find under project 311, contractual services for maintenance of equipment. The detail is not shown on page 2 because this amount on page 2 includes 07 in all projects. It is merely an additional breakdown to show, not only the project obligation of the funds but the objective classification, whether for contracts or supplies as is shown all the way through the estimates. So, if you go through the estimates and check up the 07 in each project you will come up with this total.

Mr. FORD. Page 17. Take 07 estimate for 1953, $320,752. The 07 figure on page 2 is $321,202.

General MARSHALL. That is right. Did you turn over to page 21? There you get another 07 and that sum must be added.

After you make up your list of projects which are on the functional basis then you go through and pick out these objective classifications and in this way we come out with the same total and you are talking about the same figures on this breakdown.

BRONZE MARKERS

Mr. FORD. On page 7 of the justifications, under the general heading "Deductions to determine purchase requirements," subsection (c) "Adjustment for bronze markers (canceled)." Just what do you mean?

Colonel CLEARWATER. We are not able to buy bronze markers. At the time the NPA regulations were published for the year 1951 there were certain critical items for the making of bronze markers which made it impossible for us to give the award. Since that time we have restudied and checked with the Bureau of Standards and the Naval Gun Factory and we have developed a new silicon bronze on which we have been able to award contracts for bronze markers and we can furnish them to those that request them.

Mr. FORD. And it does not interfere with the critical items?

Colonel CLEARWATER. We have eliminated the critical items prohibited by NPA regulations—tin and copper were two of them.

PLANNING

Mr. FORD. On page 15 there is a statement of $18,000 for preliminary planning data for fiscal year 1955. Do you always project that far in advance?

General MARSHALL. Yes, sir. We must plan that far in advance. It is a Nation-wide plan and this money will be given to the engineers to spread out through their districts. They take time to draw the preliminary plans and make preliminary programs before we come up with an estimate.

As a result of the criticism of our action in submitting an estimate without having a preliminary survey we have corrected our procedure.

SUPPLIES AND MATERIALS

Mr. FORD. On page 21 there is a list of various supplies, such as stationery and office supplies, fuel for heat, and so forth, for the fiscal year 1953. I wonder if you would supply for the record a comparative chart for 1952 and 1953. In other words, you have the

figures for this coming year but I do not see anything to compare them with.

General MARSHALL. I would like to insert a statement on that in the record.

(The matter referred to follows:)

Supplies required for fiscal year 1951, 1952, and 1953

	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953
Stationery and office supplies	$4,185	$5,907	$4,913
Fuel for heat	25,176	28,579	29,974
Petroleum products	27,535	28,672	30,018
Flags and halyards	10,546	10,987	7,948
Miscellaneous operating supplies	14,212	20,170	26,226
Sanitary cleaning supplies	7,378	7,418	7,180
Supplies for maintenance of grounds	68,590	78,267	84,421
Total	157,622	180,000	190,680

Mr. FORD. Totaling what?

General MARSHALL. $180,000.

Mr. FORD. Compared to $190,000.

General MARSHALL. That is right.

Mr. FORD. Yes.

Mr. KERR. They increase each year, naturally.

General MARSHALL. Yes. The more acreage you have to develop the more fertilizer you supply and the more seed.

Mr. FORD. On page 23 of the justifications the last line, "Estimated employment at end of" and then you have a series of dates, December 1952, 540 employees; proposed in March 1953, 570; proposed in June 1953, 580. Can you explain that?

General MARSHALL. This is field personnel. In December you do not hire your temporary labor to cut grass and do that kind of work in these cemeteries. That is the reason why you drop down to 540. But in the spring in March and June is when you hire most of the people to get ready for Decoration Day and getting the cemetery in shape.

Mr. RABAUT. Thank you, gentlemen.

WEDNESDAY, JANUARY 16, 1952.

RIVERS AND HARBORS AND FLOOD CONTROL

WITNESSES

LT. GEN. LEWIS A. PICK, THE CHIEF OF ENGINEERS
BRIG. GEN. C. H. CHORPENING, ASSISTANT CHIEF FOR ENGINEERS FOR CIVIL WORKS
COL. WRIGHT HIATT, DEPUTY CHIEF OF CIVIL WORKS FOR FLOOD CONTROL
H. K. HOWES, ASSISTANT CHIEF, BUDGET AND FISCAL ACCOUNTING DIVISION, OEC
HARRY COHEN, CHIEF, FLOOD CONTROL SECTION
G. L. BEARD, CHIEF, PLANNING AND DEVELOPMENT DIVISION
K. J. BOUSQUET, CHIEF, PROJECT PROGRAMS BRANCH
A. J. SMET, ACTING CHIEF, RIVER AND HARBORS PROJECT SECTION
LT. COL. E. C. PAULES, DEPUTY CHIEF, CIVIL WORKS FOR POWER
COL. W. D. MILNE, DEPUTY CHIEF FOR RIVERS AND HARBORS
STUART H. D. FREED, BUDGET ANALYST, OFFICE OF COMPTROLLER, DEPARTMENT OF THE ARMY

GENERAL STATEMENT

Mr. KERR. The committee will come to order, gentlemen.

Mr. RABAUT. General, I presume you have a statement. We would be very glad to hear from you at this time.

General PICK. Mr. Chairman and members of the committee, I am pleased to appear before you today in support of the 1953 budget estimate for funds for the Army civil functions program. My policy in preparing this budget has again been directed toward coordinating the civil work of the Corps of Engineers with the over-all defense effort.

In this connection, I should mention that since appearing before you last year the Nation has suffered from the catastrophic flood in the Middle West with which all of you are familiar. Not only did that flood cause tremendous economic loss and untold human suffering, but also it dealt a serious set-back to the defense effort. The 1953 budget estimates provide for the continuation of projects under construction at an economical rate, and for the initiation of the following new projects:

Keokuk Lock, Iowa, replacement of an obsolete and structurally weak lock in a modern canalized waterway.

Ice Harbor Lock and Dam, Washington State, power for defense in Pacific Northwest.

Flood Control: The Hartwell Reservoir in Georgia and South Carolina. Power for defense in the Southeast area.

Tuttle Creek Reservoir, Kans.: Flood control in Kansas River Basin, the Kansas Citys and Lower Missouri River Basin.

Cape Girardeau, Mo.: Local flood control.

Topeka (North), Kans.: Local flood protection project.

The budget estimate for the civil functions of the Corps of Engineers, amounting to $659,990,000 may be distributed by functions, as follows:

Construction, $542,004,000, 82.0 percent; operation and maintenance, $88,995,000, 13.6 percent; emergency repairs, $10,500,000, 1.6 percent; examinations and surveys, $5,650,000, 0.85 percent; planning,

$2,300,000, 0.35 percent; transfers, regulations and contingencies, $10,541,000, 1.6 percent; making a total of $659,990,000.

Of the total amount of $542,004,000 for construction, $315,561,300, or 58 percent of the construction funds, are for application on multiple-purpose projects involving the production of hydroelectric power.

ADMINISTRATION

The Corps of Engineers has continued its studies and efforts to improve estimating procedures by redesignating responsibilities in its field offices and by conferences with personnel concerned, in order to insure that cost estimates are sound and current. Intensive study along this line will be continued.

Planning reports are being prepared, as requested by the Appropriations Committee, on all projects for which funds are being requested for fiscal year 1953.

The Engineering Manual for Civil Works is being pushed to completion, in order to standardize the instructions previously issued in various forms to the field offices and to incorporate new policies, procedures, and criteria. Directives have been issued to improve the reporting of construction costs, to simplify the accounting system, and improve the auditing system within the Corps of Engineers.

PRICE LEVELS

In July 1950, at the time of fiscal year 1952, estimates were prepared, the Engineering News Record cost of construction index stood at 512.67. By July of 1951 this index was 542.36, an increase of 5.8 percent. This upward trend has continued, and by December 1951 this index stood at 547.67, or a further increase of 1 percent.

In accordance with instructions from the Bureau of the Budget, the estimates contained in the 1953 budget request were prepared on the premise that prices will continue at the July 1951 level during fiscal year 1953. In other words, all of these estimates are based upon the prices as of that date.

RIVERS AND HARBORS

The important role our inland waterways and coastal harbors played in the First and Second World Wars is a matter of historical record, and need not be repeated here. The continual growth of our water-borne commerce has demonstrated the soundness of our waterways program.

For example, in calendar year 1950, water-borne commerce reached an all-time peak of 820,000,000 tons. This exceeded by nearly 10 percent the previous high of 1947. These figures are both gratifying and impressive. However, if this tonnage is to be continued or increased, an expanded maintenance program is essential. To many of our waterways, because of lack of maintenance funds, are shoaling above critical depths.

OBSOLESCENT CANALIZED WATERWAYS

Further economies are being achieved by the curtailment or complete cessation of certain sections of canalized waterways which have

become obsolescent and unused by commercial traffic. I presented to the Appropriation Committees last year a list of 10 waterways on which maintenance was scheduled to be curtailed or discontinued. Inasmuch as the Senate Appropriations Committee recommended the continuance of maintenance of five of these waterways for the remainder of 1952 fiscal year, I deferred the scheduled cessation of maintenance, accordingly, in order to give the prospective shippers an additional opportunity to actually develop commerce on the waterways.

These five waterways are the Upper Kentucky River and the Big Sandy River, both in Kentucky; the Muskingum River, in Ohio; the Ouachita River, in Louisiana; and Arkansas and the Upper White Rivers, in Arkansas.

Unless the reported and prospective benefits from the use of these antiquated navigation facilities during the present fiscal year are reasonably assured and sufficient to justify the Federal cost of operation and maintenance, I plan to cease their operation on July 1, 1952.

Other marginal waterways are being carefully studied and action toward curtailment of their operation will be taken as required.

FLOOD CONTROL

General flood control was made a Federal responsibility in 1936. This program was authorized for the peacetime economic development of the water resources of the Nation. In this respect the benefits from the completed flood-control projects have greatly exceeded our original estimates. More important at this time, however, is the fact that many defense-production industrial centers and major food-producing and processing areas located along our important waterways are protected from floods by completed flood-control works. As the projects currently under construction are completed or advanced to the point where partial operation is possible, protection is being afforded to additional defense-industrial and major food-producing areas. New hydroelectric power is becoming available to meet existing power shortages in the principal power-shortage areas of the country.

There are 11 flood-control projects which will be completed or placed in operation during the coming fiscal year, and will be maintained for the first time in fiscal year 1953.

In addition there are six which will be fully maintained for the first time in fiscal year 1953.

The construction of these projects, particularly the multiple-purpose projects involving the production of power, imposes upon the United States the responsibility for their operation for the purposes for which they were constructed, and for their maintenance to a standard which will prevent damage to or loss of the structures. The amount requested for maintenance of flood-control work is the very minimum necessary to accomplish this purpose.

INSTALLED CAPACITY AT HYDROELECTRIC POWER PLANTS

In July 1950 the total installed generating capacity at major hydroelectric plants constructed and operated by the Corps of Engineers was 826,900 kilowatts.

The following generating capacity was placed on the line in fiscal year 1951:

Center Hill, Tenn., 135,000 kilowatts; Narrows, Ark., 8,500 kilowatts; or 143,500 kilowatts.

The following power capacity is scheduled to be placed in operation during fiscal year 1952:

Bull Shoals, Arkansas and Missouri, 40,000 kilowatts; an additional unit of 35,000 kilowatts was added to the Fort Peck, Mont., project; St. Marys River, Mich., 16,400 kilowatts; Wolf Creek project in Kentucky, 180,000 kilowatts; or a total of 271,400 kilowatts.

Present installed capacity at all projects built by the Corps of Engineers is 1,150,000 kilowatts.

The corps expects to complete the installation of the following capacity during fiscal year 1953:

Bull Shoals, Ark. and Mo., 120,000 kilowatts; Clark Hill, Ga. and S. C., 120,000 kilowatts; Dale Hollow, Tenn., 18,000 kilowatts; Detroit, Oreg., 50,000 kilowatts; Fort Gibson, Okla., 45,000 kilowatts; John H. Kerr, Va. and N. C., 204,000 kilowatts; Philpott, Va., 14,000 kilowatts; Tenkiller Ferry, Okla., 34,000 kilowatts; Whitney, Tex., 30,000 kilowatts; Wolf Creek, Ky., 90,000 kilowatts. A total of 725,000 kilowatts.

These installations will bring the total installed capacity at projects built by the Corps of Engineers to 1,966,800 kilowatts by July 1953.

Gross revenues received from the sale of power generated at Corps of Engineers' projects during fiscal year 1951, and turned into the Treasury, totaled $13,930,344.

MISSISSIPPI RIVER AND TRIBUTARIES

The comprehensive project for flood control in the alluvial valley of the lower Mississippi River and for its navigation improvement is so important to the welfare of the Nation that I consider that this work must not be allowed to lag. The valley extends roughly from the Gulf of Mexico to the Great Lakes region, and every transcontinental highway and railroad crosses this river. If this vast food and fiber producing area were not protected, millions of acres of land would go out of production. The importance of the flood control aspects of this project is emphasized by the fact that the drainage from 41 percent of the country must be contained within the control works provided for by this project.

The total commerce on this waterway has shown continual and significant growth. During calendar year 1950 the total traffic amounted to 67,000,000 tons, the highest of record. This is an increase of 7,000,000 tons over 1949, and exceeds by 21,000,000 tons the peak of World War II traffic.

In summary, I believe that the budget estimate before you provides for the minimum rate of progress consistent with sound construction methods, and coordinated timing of the various features of the individual projects.

With respect to the six new starts provided for in this budget, in my opinion, their construction is so urgent, that they should be initiated at this time.

Our justification sheets covering the requests for funds for each individual project have been submitted to the committee. My staff and I would be pleased to answer questions which the members of the committee may have.

Brig. Gen. C. H. Chorpening, Assistant Chief of Engineers for Civil Works, and other members of my staff, will present the detailed estimates for both river and harbors and flood-control projects.

Mr. Chairman, that concludes my formal statement. I should be very glad to answer any questions that you may care to ask me now, or to furnish whatever additional information the committee would like to have.

UNOBLIGATED BALANCES

Mr. RABAUT. General Pick.

At this point, would you file for the record a table showing the unobligated balance existing for projects on June 30, 1951, and December 31, 1951, and the estimated balance on June 30, 1952?

General PICK. Yes, sir; we can furnish that, Mr. Chairman.

(The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings.)

UNIT COSTS

Mr. RABAUT. File table showing a unit cost list with the unit prices on which the 1952 estimate was based, the 1953 estimates, and the present costs.

General PICK. Yes, sir; we can furnish that, Mr. Rabaut.

(The information referred to is as follows:)

The unit costs used in each individual project vary in view of the fact that they are the result of actual cost experience in the particular area in which the project is located. The following table represents actual average cost experience for all contracts let throughout the country during the years indicated:

Item designation		Unit cost for the calendar year 1950	Unit cost for the calendar year 1951
Common excavation	cubic yard	$0.49	$0.577
Rock excavation	do	2.59	3.130
Borrow excavation	do	.256	.391
Embankment	do	.133	.136
Reinforced concrete class I, thin sections, small volume, floor slabs, bridge decks	cubic yard	85.50	85.30
Reinforced concrete class II, moderate sections, retaining walls, conduits	cubic yard	37.40	43.10
Mass concrete	do	11.00	16.60
Reinforcing steel	pound	.114	.144
Structural steel	do	.218	.300

NATIONAL DEFENSE PROJECTS

Mr. RABAUT. File for the record a list of the projects that have been certified as national defense projects, either for construction or planning, by the President, together with the dates of the certification and the amounts certified.

General PICK. I think, Mr. Rabaut, we have a partial list still before the Bureau of the Budget that has not been acted upon.

Mr. RABAUT. Have your staff work it out the best that they can, and then if there are some exceptions to it, they can be noted.

General PICK. We can do that, sir.

(The information requested is as follows:)

List of projects certified for construction

Project	Amount	Date of certification
Fiscal year 1951:		
Flood control: San Antonio Reservoir, Calif	$500,000	Dec. 26, 1950
Rivers and harbors:		
Jacksonville to Miami, Fla	500,000	Do.
Harrison County shore protection, Mississippi	360,000	Do.
Fiscal year 1952: None		

List of projects certified for planning

Project	Amount	Date of certification
Fiscal year 1951:		
Flood control:		
Allentown, Pa	$40,000	Dec. 26, 1950
Hartwell Reservoir, Ga. and S. C	170,000	Do.
Salem Church Reservoir, Va	100,000	Do.
Rivers and harbors:		
Fernbank Lock and Dam, Ky. and Ohio	70,000	Do.
Greenup Lock and Dam, Ky	70,000	Do.
Old Hickory Lock and Dam, Tenn	100,000	Do.
Dam 8 Monongahela River, Pa	46,000	Do.
The Dalles Lock and Dam, Oreg. and Wash	800,000	Feb. 10, 1951
Fiscal year 1952: [1]		
Flood control:		
Table Rock Reservoir, Ark. and Mo	195,000	Jan. 5, 1952
Anacostia River, D. C. and Md	25,000	Do.
Kawainui swamp, Hawaii	28,000	Do.
Topeka, Kans	70,000	Do.
Pineville, Ky	25,000	Do.
Pomme de Terre Reservoir, Mo	375,000	Do.
Cape Girardeau, Mo	100,000	Do.
Libby Reservoir, Mont	125,000	Do.
Monkey Run, Corning, N. Y	50,000	Do.
Chamita Reservoir, N. Mex	90,000	Do.
Keystone Reservoir, Okla	150,000	Do.
Hills Creek Reservoir, Oreg	50,000	Do.
Stewarts Ferry Reservoir, Tenn	150,000	Do.
Dallas Floodway, Tex	60,000	Do.
Wheeling-Benwood, W. Va	40,000	Do.
Rivers and harbors: [1]		
Arkansas River and tributaries, Arkansas and Oklahoma	147,000	Do.
Lock 19 at Keokuk, Iowa	55,700	Do.
Upper Columbia Lock and Dam, Ga. and Ala	225,000	Do.
Howell Mill Shoals Dam, Fla	226,300	Do.
Apalachicola River channel, Florida	30,000	Do.
Dam 8, Monongahela River, Pa	40,900	Do.
New Cumberland Lock and Dam, Ohio and W. Va	39,500	Do.
Hildebrand Lock and Dam, W. Va	35,000	Do.
Greenup Lock and Dam, Ky. and Ohio	130,000	Do.
Fernbank Lock and Dam, Ky. and Ohio	109,000	Do.
Carthage Dam, Tenn	200,000	Do.
Celina Dam, Ky	50,000	Do.

[1] Amounts shown for planning for fiscal year 1952 represent the amount of funds available from Oct. 25, 1951, to the end of the fiscal year 1952.

NOTE.—In addition to the projects listed, funds have been allocated to the Turtle Creek, Strawn, and Toronto Reservoirs in Kansas, which did not require certification and were provided for in the conference report on the 1952 Appropriation Act.

POWER AND NONPOWER PROJECTS

Mr. RABAUT. File for the record a list of the power and nonpower projects in the 1953 budget.

General PICK. Yes, sir.

(The information requested is as follows:)

Power projects in approved budget estimate, fiscal year 1953

RIVER AND HARBOR

Construction:	
Florida: Jim Woodruff Dam, part of Apalachicola, Chattahoochee, and Flint Rivers systems	$11, 330, 300
Georgia: Buford Dam, part of Apalachicola, Chattahoochee, and Flint Rivers system	3, 000, 000
Oregon:	
McNary lock and dam, Oregon and Washington	66, 000, 000
The Dalles lock and dam, Oregon and Washington	37, 500, 000
Tennessee: Old Hickory lock and dam	16, 000, 000
Washington:	
Chief Joseph Dam	25, 300, 000
Ice Harbor lock and dam	5, 000, 000
Subtotal	164, 130, 300
Planning:	
Alabama:	
Howell Mill Shoals Dam, part of Alabama-Coosa Rivers system	100, 000
Upper Columbia lock and dam, part of Apalachicola, Chattahoochee, and Flint Rivers system, Alabama and Georgia	75, 000
Kentucky: Celina Dam, part of Cumberland River Basin	50, 000
Montana: Fort Peck Dam, second power plant	25, 000
Tennessee: Carthage Dam, part of Cumberland River Basin	90, 000
Texas: McGee Bend Dam	25, 000
Subtotal	365, 000
Total	164, 495, 300

FLOOD CONTROL, GENERAL

Construction:	
Arkansas:	
Blakely Mountain Reservoir	6, 600, 000
Bull Shoals Reservoir, Ark. and Mo	1, 400, 000
California: Folsom Reservoir [1]	18, 130, 000
Georgia: Clark Hill Reservoir	4, 100, 000
Idaho: Albeni Falls Reservoir	8, 100, 000
Nebraska: Gavins Point Reservoir	13, 000, 000
North Carolina: John H. Kerr Reservoir	6, 840, 000
North Dakota: Garrison Reservoir	34, 000, 000
Oklahoma:	
Fort Gibson Reservoir	525, 000
Tenkiller Ferry Reservoir	2, 250, 000
Oregon:	
Detroit Reservoir	10, 700, 000
Lookout Point Reservoir	17, 250, 000
South Carolina: Hartwell Reservoir	4, 000, 000
South Dakota:	
Fort Randall Reservoir	37, 500, 000
Oahe Reservoir, S. Dak. and N. Dak	3, 500, 000
Tennessee: Dale Hollow Reservoir	1, 491, 000
Texas: Whitney Reservoir	175, 000
Subtotal	169, 561, 000

[1] Power to be installed by Bureau of Reclamation.

Power projects in approved budget estimate, fiscal year 1953—Continued

FLOOD CONTROL, GENERAL—continued

Planning:	
Arkansas: Table Rock Reservoir	$100, 000
Kentucky: Jessamine Creek Reservoir	50, 000
Montana: Libby Reservoir	200, 000
Oklahoma: Keystone Reservoir	150, 000
Oregon: Hills Creek Reservoir	125, 000
Virginia: Gathright and Falling Springs	100, 000
Subtotal	725, 000
Total	170, 286, 000

Nonpower projects in approved budget estimate, fiscal year 1953

RIVER AND HARBOR

Construction:	
Alabama: Demopolis lock and dam, part of Black Warrior system	$5, 500, 000
Arkansas: Arkansas River and tributaries, Arkansas and Oklahoma	2, 000, 000
Florida: Jacksonville to Miami waterway	2, 200, 000
Illinois:	
Mississippi River between Ohio and Missouri River: Chain of Rocks Canal	1, 297, 000
Mississippi River between the Missouri River and Minneapolis, Minn. (exclusive of St. Anthony Falls and lock No. 19)	70, 000
Iowa:	
Missouri River, Kansas City to Sioux City	5, 000, 000
Lock No. 19	2, 500, 000
Maryland: Baltimore Harbor and channels	800, 000
Minnesota: St. Anthony Falls, part of project, Mississippi River between the Missouri River and Minneapolis, Minn	1, 792, 700
Missouri: Missouri River, Kansas City to mouth	3, 500, 000
New Jersey:	
Newark Bay, Hackensack and Passaic Rivers	508, 000
New York and New Jersey channels	912, 000
New York:	
Buffalo Harbor	436, 000
New York Harbor, entrance channels and anchorage areas	524, 000
Ohio: Cleveland Harbor	6, 000, 000
Pennsylvania:	
Monongahela River: Locks 2	2, 930, 000
Schuylkill River above Fairmount Dam	1, 200, 000
Tennessee: Cheatham lock and dam	6, 000, 000
Texas: Gulf Intracoastal Waterway (Galveston district)	1, 386, 000
Subtotal	44, 555, 700
Planning:	
Alabama: New lock and dam No. 8, Black Warrior, Warrior, and Tombigbee River system	75, 000
Arkansas: Arkansas River and tributaries, Arkansas and Oklahoma	50, 000
Kentucky:	
Fernbank lock and dam (Markland site)	100, 000
Greenup lock and dam	75, 000
Ohio: New Cumberland lock and dam, Ohio and W. Va	100, 000
West Virginia: Monongahela River, Hildebrand lock and dam	35,000
Subtotal	435,000
Total	44, 900,700

Nonpower projects in approved budget estimate, fiscal year 1953—Continued

FLOOD CONTROL, GENERAL

Construction:	
Arkansas: Red River levees and bank stabilization, Arkansas, Texas, and Louisiana	$634,000
California:	
Cherry Valley Reservoir	2,514,100
Isabella Reservoir	4,500,000
Los Angeles County drainage area	7,000,000
Pine Flat	9,500,000
San Antonio Reservoir	3,000,000
Whittier Narrows Reservoir	7,000,000
Connecticut: Mansfield Hollow Reservoir	540,000
Florida: Central and southern	5,000,000
Idaho: Lucky Peak Reservoir	6,087,000
Illinois:	
Columbia drainage and levee district	311,900
East Cape Girardeau and Clear Creek drainage district	244,000
East St. Louis and vicinity	1,500,000
Farm Creek reservoirs	929,300
Grand Tower drainage and levee district	800,000
Prairie due Rocher and vicinity	707,000
Wood River drainage and levee district	1,100,000
Indiana:	
New Albany	631,700
Vincennes	600,000
Kansas:	
Hutchinson	1,824,000
Kansas Citys, Mo. and Kans	3,750,000
Missouri River agricultural levees, Kansas, Missouri, Iowa, and Nebraska	500,000
Topeka	500,000
Tuttle Creek Reservoir	15,500,000
Wichita and Valley Center	2,500,000
Kentucky:	
Ashland	900,000
Covington	900,000
Louisville	4,500,000
Maysville	1,000,000
Louisiana: Natchitoches Parish	500,000
Maryland: Cumberland, Md., and Ridgeley, W. Va	1,300,000
Minnesota:	
Red River of the North, S. Dak., N. Dak., and Minn	550,000
Aitkin	600,000
Missouri:	
Cape Girardeau	1,000,000
Perry County levee districts, Nos. 1, 2, and 3	1,000,000
New Mexico: Jemez Canyon Reservoir	2,310,000
Oregon: Willamette River bank protection	400,000
Pennsylvania:	
Conemaugh River Reservoir	4,200,000
East Branch Clarion Reservoir	850,000
Williamsport	1,185,000
South Dakota: Fall River Basin	427,000
Tennessee: Memphis, Wolf River and Nonconnah Creek	750,000
Texas:	
Belton Reservoir	3,500,000
Fort Worth floodway	750,000
Garza-Little Elm Reservoir	5,300,000
Lavon Reservoir	462,000
Texarkana	6,000,000
Subtotal	115,557,000

Nonpower projects in approved budget estimate, fiscal year 1953—Continued

FLOOD CONTROL, GENERAL—continued

Planning:	
Arkansas: Greers Ferry Reservoir	$50, 000
California: San Antonio and Chino Creeks	40, 000
District of Columbia: Anacostia River	50, 000
Hawaii: Kawainui Swamp	30, 000
Kansas: Strawn Reservoir	100, 000
Kentucky:	
Barbourville	25, 000
Pineville	25, 000
New Mexico:	
Chamita Reservoir	85, 000
Rio Grande floodway	10, 000
New York:	
Batavia	20, 000
Monkey Run, Corning	25, 000
Wellsville	25, 000
Pennsylvania:	
Allentown	35, 000
Swoyerville-Forty Fort	30, 000
Texas: Dallas floodway	100, 000
Vermont: Victory Reservoir	75, 000
West Virginia: Wheeling-Benwood	50, 000
Subtotal	775, 000
Total	116, 332, 000

REVENUES

Mr. RABAUT. File for the record a table similar to that shown on page 88 of the hearings on the 1952 bill, showing revenues of the Corps of Engineers projects for the past 5 years.

General PICK. Yes, sir.

(The information requested is as follows:)

Revenue from Corps of Engineers projects

Item	Fiscal year 1946	Fiscal year 1947	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951
Power receipts	$10, 062, 800	$10, 931, 700	$10, 880, 100	$11, 046, 700	$11, 754, 206	$13, 930, 344
Lease of flood-control land receipts	231, 100	69, 000	78, 900	139, 500	188, 797	270, 657
Miscellaneous receipts	490, 000	464, 200	576, 700	617, 100	661, 245	623, 474
Total	10, 783, 900	11, 464, 900	11, 535, 700	11, 803, 300	12, 604, 248	14, 824, 475

STATUS OF AUTHORIZED PROGRAM

Mr. RABAUT. File for the record a statement showing the estimated cost of projects now in the construction stage, and those in the planning stage, and those authorized, but on which no work has been done.

General PICK. We can do that, sir.

(The information requested is as follows:)

Status of authorized program

Estimated cost of projects in construction stage:[1]	
Rivers and harbors	$2, 539, 200, 000
Flood control, general	3, 410, 800, 000
Total	5, 950, 000, 000
Estimated cost of projects in planning stage or projects on which no planning is required:	
Rivers and harbors	2, 367, 900, 000
Flood control, general	2, 357, 400, 000
Total	4, 725, 300, 000
Estimated cost of remaining authorized projects on which no work has been accomplished:	
Rivers and harbors	806, 200, 000
Flood control, general	2, 507, 900, 000
Total	3, 314, 100, 000

[1] Does not include completed projects.

OBSOLESCENT WATERWAYS

Mr. RABAUT. What is the status of your project to discontinue maintenance and use of obsolescent canalized waterways?

General PICK. We have ceased maintaining five of them.

Mr. RABAUT. Would you list them for the record?

General PICK. We can list those; yes, sir.

(The information requested is as follows:)

OBSOLESCENT CANALIZED WATERWAYS

The obsolescent canalized waterways discontinued for operation for navigation are as follows:

Upper Fox River, Wis.
Illinois and Mississippi Canal, Ill.
Osage River, Mo.
Green River, Ky. (lock and dam 5 and 6 only).
Little Kanawha River, W. Va.

Mr. RABAUT. What do you propose in 1953 for the locks on the Big Sandy and Kentucky Rivers in Kentucky, the Upper White and the Ouachita Rivers in Arkansas and the Muskingum River in Ohio?

General PICK. We can furnish that, sir.

(The information requested is as follows:)

OBSOLESCENT CANALIZED WATERWAYS

I presented to the Appropriation Committees last year a list of 10 waterways on which maintenance was scheduled to be curtailed or discontinued. Inasmuch as the Senate Appropriations Committee recommended the continuance of maintenance of five of these waterways for the remainder of the 1952 fiscal year, I deferred the scheduled cessation of maintenance accordingly, in order to give the prospective shippers an additional opportunity to actually develop commerce on the waterways. These five waterways are the Upper Kentucky River and Big Sandy River, Ky.; the Muskingum River, Ohio; the Ouachita River, La. and Ark.; and the Upper White River, Ark. Unless the reported and prospective benefits from the use of these antiquated navigation facilities during the present fiscal year are reasonably assured and sufficient to justify the Federal cost of operation and maintenance, I plan to cease their operation on July 1, 1952. Other marginal waterways are being carefully studied and action toward curtailment of their operation will be taken as required.

Mr. RABAUT. Have you noticed any development of commerce on these waterways since the time of the Senate hearings last June?

General PICK. We can supply that for the record, sir.

Mr. RABAUT. Do you want to comment on it now?

General PICK. No, sir. That question can be answered, but I would like to furnish factual data for you.

We will give you reports on all of those by February 1.

(The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings, part 1.)

REEVALUATION OF PROJECTS

Mr. RABAUT. In the report accompanying the civil functions bill last year, this committee suggested that you make a reevaluation of projects in the planning stage from a national standpoint, with a view to effecting greater economies and a better integrated national program. What have you done with reference to this suggestion?

General PICK. We have been studying it. We do not have the report ready yet.

If I understand that question correctly, Mr. Rabaut, the idea is to review all the programs and place them in an order of priority. Is that the intention of that?

Mr. RABAUT. Well, the priority might be advantageous, but the idea is to reevaluate the projects in the planning stage and discard those which are uneconomical. If you make this study, you are certainly going to suggest certain things about them, are you not?

General PICK. The projects that we recommend for planning are the ones which should be considered for construction at an early date, Mr. Rabaut.

PERIODIC REVIEW OF COSTS

Mr. RABAUT. What periodic review does your staff make of the estimated cost of projects?

General PICK. Annually, sir.

Mr. RABAUT. Annually?

General PICK. Annually, for all of those that we include in the budget.

Mr. RABAUT. What about the ones you do not include? Do you do anything about those?

General PICK. We do not spend any money on them, sir.

Let me ask Mr. Beard to tell you what we do with those projects.

Mr. BEARD. Every year we get in from the district offices a reestimate of the cost of the projects, and that is reviewed and approved in the Chief of Engineers' Office. On projects which have no imminent possibility of being initiated or funds requested, the bringing up to date of the estimate is done in a preliminary way using a cost index factor.

We do not spend a lot of money on design or expensive estimating. Similarly, there is a reevaluation of the economics in a preliminary way, using factors and also the general knowledge that the district office has of conditions in the area. Projects which definitely show poor economics, are placed in an inactive status.

In our 6-year program, which is furnished to the committee, there is a separate category of projects called inactive. The projects that show up favorably, under this reevaluation, are the ones from which we select the projects for which we ask for planning money.

Then, when we got the planning money, we make the review on an up-to-the-minute basis in considerable detail.

Mr. RABAUT. Thank you very much.

Mr. KERR. In your opinion is that the only way one can approach it?

General PICK. Yes sir. These projects are not very active until planning funds are provided and we do not spend money on them. But they are authorized, and if it ever becomes necessary to build them, the authority is there.

In the Ohio River Basin, you have a different proposition. The comprehensive plan was approved for that basin, and the authority permits the Chief of Engineers and the Secretary of the Army to select for construction, any project included in the approved basin plan and, if funds are appropriated, they can go ahead with the planning and construction of those projects.

Mr. KERR. That is limited to a certain area, though?

General PICK. That applies principally to the Ohio River Basin, sir, where there are over 350 projects in the approved plan.

(The following was submitted later:)

Schedule of Public Works construction programs (inactive authorized projects)

MAINTENANCE AND IMPROVEMENT OF EXISTING RIVER AND HARBOR WORKS

Name and location of project	Total estimated cost	Funds available or required	
		Actual to June 30, 1951	Additional to complete
Alabama: Tennessee River, Ala., Tenn., and Ky	$2,436,200	$2,244,200	$192,000
Arkansas: Ouachita and Black Rivers, Ark. and La. (Felsenthal canal)	54,100		54,100
California:			
Lower San Francisco Bay	381,000		381,000
Monterey Harbor	889,800	698,500	191,300
Oakland Harbor	1,564,500	1,134,500	430,000
Old River	72,000	23,200	48,800
Richmond Harbor	878,000	814,000	64,000
Sacramento River and tributaries debris control	6,945,000	5,291,400	1,653,600
Connecticut:			
Bridgeport Harbor	2,297,000	2,207,000	90,000
Connecticut River above Hartford	[1] 3,384,000		3,384,000
Five Mile River	47,500	35,500	12,000
Thames River	1,339,000	1,323,600	15,400
Westport Harbor and Saugatuck River	21,100	15,200	5,900
Delaware:			
Appoquinimink River	40,000	37,000	3,000
Inland Waterway from Delaware River to Chesapeake Bay, Del. and Md	14,625,000	14,544,600	80,400
Murderkill River	110,000	37,600	72,400
Smyrna River	153,000	143,800	9,200
Florida:			
Cedar Keys Harbor	68,000	64,500	3,500
Fernandina Harbor	3,545,700	3,286,800	258,900
Key West Harbor	2,923,700	1,012,900	1,910,800
Lake Crescent and Dunns Creek	64,100	10,300	53,800
Manatee River	137,800	123,400	14,400
Oklawaha River	431,400	311,400	120,000
Suwannee River	266,300	66,300	200,000
Upper Chipola River	41,000	36,800	4,200
Kentucky: Cumberland River above Nashville, locks and dams 9 to 15	14,600,000	3,760,000	10,840,000
Louisiana:			
Bayou Grosse Tete	207,000	29,400	177,600
Bayou Lafourche	979,000	271,000	708,000
Bayou Teche	1,000,000	708,600	291,400
Chitto Bogue	44,900	14,900	30,000
Vinton waterway	42,500		42,500

[1] Estimated cost $3,384,000, but expenditures limited by law to $1,000,000.

Schedule of Public Works construction programs (inactive authorized projects)—Con.

MAINTENANCE AND IMPROVEMENT OF EXISTING RIVER AND HARBOR WORKS—Continued

Name and location of project	Total estimated cost	Funds available or required	
		Actual to June 30, 1951	Additional to complete
Maine:			
Bagaduce River	$48,000	$28,000	$20,000
Bar Harbor	470,000	406,600	63,400
Saco River	557,000	531,700	25,300
Maryland:			
Channel connecting Plain Dealing and Oak Creeks	116,000		116,000
Elk and Little Elk Rivers	26,200	18,900	7,300
Patuxent River	28,000	14,000	14,000
Tilghman Island Harbor	7,800		7,800
Tred Avon River	28,800	6,700	22,100
Waterway Choptank to Little Choptank River	59,000		59,000
Massachusetts:			
New Bedford and Fairhaven Harbor	1,787,000	1,687,000	100,000
Sandy Bay	10,500,000	1,925,000	8,575,000
Wareham Harbor	97,000	56,300	40,700
Michigan:			
Black River	194,500	54,500	140,000
Grand Haven Harbor and Grand River	994,900	964,900	30,000
Manistee Harbor	763,700	747,700	16,000
Monroe Harbor	777,500	687,500	90,000
Pentwater Harbor	230,000	179,900	50,100
South Haven Harbor	288,000	204,000	84,000
Minnesota: Warroad Harbor and River	383,800	83,800	300,000
Mississippi: Pearl River, Edinburg to Jackson	63,500	31,900	31,600
New Jersey:			
Delaware River, N. Y., N. J., and Pa., at mouth of Neversink River	61,400		61,400
Delaware River between Philadelphia, Pa., and Trenton, N. J., at Biles Creek	5,243,000	5,189,800	53,200
Elizabeth River	157,000		157,000
Rancocas River	81,200	44,500	36,700
Raritan River	1,257,000	1,171,000	86,000
Salem River, channel in Little Salem River	150,000	103,600	46,400
New York:			
Bronx River	2,237,000	1,081,000	1,156,000
Coney Island Creek	240,000	69,500	170,500
East Rockaway (Debs) Inlet	704,000	504,000	200,000
Grand View Bay	362,000	1,500	360,500
Harbor at Flushing Bay	902,000	389,600	512,400
Irvington Harbor	51,000		51,000
Lemon Creek, Staten Island	162,000		162,000
Manhasset Bay	117,000		117,000
Newtown Creek	1,302,000	767,100	534,900
Niagara River	2,688,000	463,400	2,224,600
Oak Orchard Harbor	540,000	7,500	532,500
Ogdensburg Harbor	415,000	375,000	40,000
Port Chester	427,500	358,500	69,000
Port Jefferson Harbor	244,000	91,200	152,800
Port Ontario Harbor	850,000	6,900	843,100
St. Lawrence River between Ogdensburg and Lake Ontario	2,093,000	448,000	1,645,000
Waddington Harbor	20,000		20,000
North Carolina:			
Harbor of refuge, Cape Lookout	2,524,000	1,363,800	1,160,200
Morehead City Harbor	2,221,000	613,100	1,607,900
Trent River	58,800	44,300	14,500
Oregon: Bay Ocean Peninsula	120,000		120,000
Pennsylvania:			
Chester River	3,600		3,600
Schuylkill River	2,804,000	2,753,000	51,000
Youghiogheny River, canalization	8,785,000		8,785,000
Puerto Rico: Guayanes Harbor	146,000		146,000
Rhode Island:			
Great Salt Pond, Block Island	589,000	189,000	400,000
Harbor of refuge, Block Island	620,000	577,000	43,000
Pawcatuck River	255,000	182,000	73,000
South Carolina:			
Abbapoola Creek	15,000		15,000
Beresford Creek	27,300		27,300
Congaree River	521,500	365,000	156,500
Charleston Harbor	4,304,500	1,916,000	2,388,500
Myrtle Beach, anchorage basin	7,360,900	7,345,900	15,000
Tennessee: Wolf River (Memphis Harbor)	1,232,000	604,000	628,000

Schedule of Public Works construction programs (inactive authorized projects)—Con.

MAINTENANCE AND IMPROVEMENT OF EXISTING RIVER AND HARBOR WORKS—Continued

Name and location of project	Total estimated cost	Funds available or required	
		Actual to June 30, 1951	Additional to complete
Texas:			
Bastrop Bayou	$34,000	$9,900	$24,100
Cedar Bayou	42,000	12,600	29,400
Chocolate Bayou	54,500	6,500	48,000
East Bay Bayou (Hanna Reef)	75,800	2,500	73,300
Channel to Port Bolivar	157,200	85,200	72,000
Virginia: Cape Charles City Harbor	754,300	565,300	189,000
Washington:			
Port Gamble Harbor	18,700	11,900	6,800
Skagit River	217,000	991,800	117,200
Stillaguamish River	172,000		172,000
Tacoma Harbor	574,000	414,000	160,000
Wisconsin:			
Black River	77,600	67,600	10,000
Harbors of Washington Island	109,800	62,800	47,000
Kewaunee Harbor	936,000	492,000	444,000
Manitowoc Harbor	653,000	437,000	216,000
Two Rivers Harbor	85,000	74,700	10,300
Total	132,861,900	75,241,800	57,620,100

FLOOD CONTROL, GENERAL

Alabama: Tombigbee River, Ala. and Miss.	$284,800	$134,800	$150,000
Arkansas:			
Big Bottom	190,000		190,000
Little Black River, Ark. and Mo.	816,500		816,500
Murfreesboro [3]	3,430,000		3,430,000
California:			
Aliso Creek Dam	315,000		315,000
Black Butte Reservoir	13,560,000	101,600	13,458,400
Eel River	375,000		375,000
Hogan Reservoir	13,760,000	132,200	13,627,800
Napa River	88,200		88,200
New Melones Reservoir	46,600,000	70,200	46,529,800
San Juan Dam	5,527,000	67,500	5,459,500
Trabuco Dam	2,030,000		2,030,000
Villa Park Dam	2,100,000		2,100,000
Colorado: Castlewood Reservoir	12,900,000	57,000	12,843,000
Connecticut:			
Andover Reservoir	4,421,000		4,421,000
South Coventry Reservoir	9,194,000	96,000	9,098,000
Thomaston Reservoir	13,169,000	26,000	13,143,000
Georgia:			
Anthony Shoals Reservoir [3]	14,866,000		14,866,000
Chattanooga Units (4) Reservoir, Ga. and S. C. [2]	34,366,000		34,366,000
Goat Island Reservoir, Ga. and S. C. [3]	29,960,000		29,960,000
Middleton Shoals Reservoir, Ga. and S. C. [3]	13,555,000		13,555,000
Tallow Hill Reservoir [2]	32,103,000		32,103,000
Illinois:			
Big Prairie drainage and levee district	145,200		145,200
Carlyle Reservoir	25,050,000		25,050,000
Cave in Rock	576,000		576,000
Chandlerville No. 2 Reservoir	41,514,500		41,514,500
Clear Lake drainage and levee district	230,000	2,700	227,300
Donovan levee	93,800	1,800	92,000
Elizabethtown	490,000		490,000
Kaskaskia Island drainage and levee district	2,239,000	296,500	1,942,500
Kelly Lake drainage and levee district	982,200	13,200	969,000
Levees between New Athens and Carlyle	7,618,000		7,618,000
Levee between Shelby Bridge and Baun's Bridge, Ill. and Ind. (*See* Indiana.)			
Levees east of Hubly Bridge	67,300	600	66,700
Lussenhop levee	35,700	100	35,600
McGee Creek drainage and levee district	519,000		519,000
Metropolis	2,675,000	10,600	2,664,400
Panther Creek levee	186,400		186,400
Salt Creek in vicinity of Middletown	177,700		177,700
Sangamon River, mouth of Salt Creek to Roby	2,299,800		2,299,800
Sangamon River and Salt Creek, mouth to Mahumet	41,500		41,500
Shawneetown	1,524,000		1,524,000
Swiger, Whitney, Young-Hoblit levee	33,800	400	33,400
Tar Creek levee	229,500	1,400	228,100
Watts levee	113,700	1,000	112,700

See footnotes at end of table, p. 40.

Schedule of Public Works construction programs (inactive authorized projects)—Con.

FLOOD CONTROL, GENERAL—Continued

Name and location of project	Total estimated cost	Funds available or required	
		Actual to June 30, 1951	Additional to complete
Indiana:			
Derby	$490,000		$490,000
Leavenworth	1,285,000		1,285,000
Levee between Shelby Bridge & Baum's Bridge, Ill. and Ind	919,000		919,000
Madison	3,345,000		3,345,000
New Amsterdam	415,000		415,000
Rising Sun	795,000		795,000
Rome	317,000		317,000
Troy	438,000		438,000
Utica	1,370,000		1,370,000
Iowa:			
Central City Reservoir	6,722,000		6,722,000
Denison	62,000	$4,300	57,700
Rochester Reservoir	11,384,000		11,384,000
Sabula	62,000	100	61,900
Kansas:			
Big Slough to Belle Plain	5,690,000		5,690,000
Burlington	93,000		93,000
Caney Creek, Okla. and Kans	540,000		540,000
Cherokee County	790,000		790,000
Chetopa	98,000		98,000
Cottonwood Falls	25,000		25,000
Emporia	78,000		78,000
Florence	58,000		58,000
Hartford	43,200		43,200
Humboldt	66,000		66,000
LeRoy	33,000		33,000
Lyon County	237,100		237,100
Neosho Falls	112,000		112,000
Neosho Rapids	38,900		38,900
Verdigris River from mouth to Madison	800,000		800,000
West of Benedict	670,000		670,000
West of Elk City	280,000		280,000
West of Fredonia	650,000		650,000
Kentucky:			
Bromley	1,095,000		1,095,000
Carrollton	1,950,000	9,700	1,940,300
Concordia	513,000		513,000
Dover	565,000		565,000
Frankfort	2,555,000		2,555,000
Fullerton	947,000		947,000
Greenup	2,432,000	5,000	2,427,000
Milton	2,125,000		2,125,000
Normal	566,000		566,000
Prestonville	1,525,000		1,525,000
Salyersville	553,000	12,000	541,000
South Portsmouth	323,000		323,000
Tolu	268,000		268,000
Westport	1,525,000		1,525,000
Wilder	1,910,000	5,200	1,904,800
Louisiana:			
Black Bayou Reservoir	640,000		640,000
Pearl River, Miss. and La. (See Mississippi.)			
Maryland: Federalsburg, Marshy Hope Creek	460,000	4,100	455,900
Massachusetts:			
Chicopee	1,700,000	1,434,500	265,500
East Brimfield Reservoir	4,542,000	70,000	4,472,000
Hodges Village Reservoir	2,612,000		2,612,000
North Andover-Lawrence	1,465,000	19,500	1,445,500
West Brookfield Reservoir	7,861,000	67,200	7,793,800
Westville Reservoir	4,778,000	78,600	4,699,400
Michigan: Sebewaing	380,500	366,500	14,000
Mississippi:			
Buffalo River	218,000		218,000
Pearl River, Miss. and La.	10,000		10,000
Tombigbee River, Ala. and Miss. (See Alabama.)			
Missouri:			
Arlington Reservoir	23,780,000	8,700	23,771,300
Chillicothe Reservoir	55,104,000		55,104,000
Little Black River, Ark. and Mo. (See Arkansas.)			
Monett	663,000		663,000
Osceola Reservoir	97,473,000	572,500	96,900,500
Richland Reservoir	29,713,000	8,500	29,704,500
Riverland levee district	250,000		250,000
St. Louis County drainage and levee district	567,000		567,000
Ste. Genevieve levee district	1,202,000	200	1,201,800
South Grand Reservoir	20,235,000		20,235,000
Wiedmer Chemicals drainage and levee district	440,000		440,000

Schedule of Public Works construction programs (inactive authorized projects)—Con.

FLOOD CONTROL, GENERAL—Continued

Name and location of project	Total estimated cost	Funds available or required	
		Actual to June 30, 1951	Additional to complete
New Hampshire:			
Alternate for Sugar Hill Reservoir	$6,885,000		$6,885,000
Beards Brook Reservoir	6,355,000	$77,800	6,277,200
Honey Hill Reservoir	3,627,000	92,200	3,534,800
Mountain Brook Reservoir	774,000	56,900	717,100
West Canaan Reservoir	7,990,000	91,900	7,898,100
New York:			
Keuka Lake	101,000	16,000	85,000
Lake Chautauqua and Chadakoin River area	1,584,000	6,200	1,577,800
Waterford	1,489,000		1,489,000
North Carolina:			
Gaston Reservoir, Va. and N. C. (See Virginia.)			
Roanoke Rapids Reservoir, N. C.	26,300,000		26,300,000
Schoolfield Reservoir, Va. and N. C. (See Virginia.)			
Stuart Reservoir, Va. and N. C. (See Virginia.)			
North Dakota:			
Beulah	129,800	8,000	121,800
Hazen	57,200	6,000	51,200
Jamestown Reservoir	14,960,000	40,000	14,920,000
Pembina River Reservoir	673,000	50,000	623,000
Tongue River Reservoir	752,000	23,700	728,300
Ohio:			
Aberdeen	1,248,000	1,300	1,246,700
Athalia	550,000		550,000
Bellaire	6,312,100		6,312,100
Belpre	3,118,000		3,118,000
Big Walnut Reservoir	3,810,000	110,600	3,699,400
Brilliant	2,666,900		2,666,900
Buena Vista	518,000		518,000
Burlington	128,000		128,000
Chambersburg	1,392,000		1,392,000
Chesapeake	288,000		288,000
Cheshire	366,000		366,000
Chilo	795,000		795,000
Clarington	2,368,000		2,368,000
Cleves	1,075,000	6,300	1,068,700
Coal Grove	776,000	3,400	772,600
Eagle Creek	11,025,000	100,000	10,925,000
Empire	2,675,000		2,675,000
Gallipolis	2,333,000		2,333,000
Hanging Rock	408,000		408,000
Higginsport	830,000		830,000
Hockingport	496,000		496,000
Letart Falls	867,000		867,000
Manchester	1,163,000	9,900	1,153,100
Mapleshade	1,162,000		1,162,000
Marietta	12,176,000		12,176,000
Middleport	4,101,000	9,800	4,091,200
Miller	454,000		454,000
Mingo Junction	1,579,400		1,579,400
New Matamoras	1,822,000		1,822,000
Newport	278,000		278,000
Pomeroy	14,352,000		14,352,000
Portland	904,000		904,000
Powhatan Point	4,117,000		4,117,000
Proctorville	2,332,000		2,332,000
Racine	860,000		860,000
Sardis	249,000		249,000
Sciotoville	1,270,000		1,270,000
South Point	867,000		867,000
Strattonville	2,455,000		2,455,000
Syracuse	1,060,000		1,060,000
Zanesville	7,081,000		7,081,000
Oklahoma:			
Big Skin Bayou—Camp Creek Bottom	760,000	200	759,800
Blackwell	172,000		172,000
Bradens Bend	1,485,000	1,200	1,483,800
Bradens Bottom	351,000	13,400	337,600
Caney Creek, Okla. and Kans. (See Kansas.)			
Cherokee	1,295,000	30,000	1,265,000
Dirty Creek Bottom	1,000,000	500	999,500
Fort Gibson Bottom	640,000	200	639,800
Moffett Bottom	1,830,000	10,800	1,819,200
Tucker Lake Bottom	1,000,000	600	999,400

See footnotes at end of table, p. 40.

Schedule of Public Works construction programs (inactive authorized projects)—Con.

FLOOD CONTROL, GENERAL—Continued

Name and location of project	Total estimated cost	Funds available or required	
		Actual to June 30, 1951	Additional to complete
Oregon:			
Arlington	$555,000	$20,100	$534,900
Diking District No. 3, Clatsop Co.	4,500	200	4,300
Prescott area	35,100	100	35,000
Coquille River	354,000	900	353,100
Pennsylvania:			
Brackenridge, Tarentum, and Natrona	9,694,900		9,694,900
Coraopolis	2,519,400		2,519,400
Freeport	1,325,800		1,325,800
French Creek Reservoir	16,504,300	124,500	16,379,800
Industry	1,328,000		1,328,000
Kittanning (pt. II)	5,301,000		5,301,000
Leetsdale	1,125,000		1,125,000
McKees Rocks	4,918,500		4,918,500
Pennsylvania:			
Nanticoke	1,575,000		1,575,000
Neville Island	2,835,000		2,835,000
New Kensington and Parnassus	7,104,500		7,104,500
Pittsburgh (Golden Triangle)	8,438,000		8,438,000
Pittsburgh (North Side)	20,111,200		20,111,200
Pittsburgh (the Strip)	9,563,800		9,563,800
Redbank Creek Reservoir	36,014,400	156,300	35,858,100
Rochester	2,963,000		2,963,000
Smiths Ferry	1,870,000		1,870,000
Turtle Creek Reservoir	5,140,000	67,200	5,072,800
West Bridgewater	1,929,100		1,929,100
West Pittston	846,000		846,000
Wilcox	205,500	16,800	188,700
South Carolina:			
Chattanooga units (4), Georgia and South Carolina. (See Georgia.)			
Edisto River	263,000	6,400	256,600
Goat Island, Ga. and S. C. (See Georgia.)			
Middleton Shoals, Ga. and S. C. (See Georgia.)			
Newry-Old Pickens Reservoir [3]	24,256,000		24,256,000
Texas:			
Brady	1,813,600	72,100	1,741,500
Columbus	297,000	41,700	255,300
Eagle Lake to Matagorda	19,953,400	408,000	19,545,400
La Grange	600,000	15,100	584,900
Vermont:			
Bennington	1,259,000		1,259,000
Lamoille River	183,000	49,800	133,200
Ludlow Reservoir	4,523,000		4,523,000
North Springfield Reservoir	8,130,000	9,000	8,121,000
Procter	104,000		104,000
South Tunbridge Reservoir	4,778,000		4,778,000
Virginia:			
Gaston Reservoir, Va. and N. C.[1]	26,800,000		26,800,000
Leesville Reservoir, Va.[1]	8,900,000		8,900,000
Melrose Reservoir, Va.[1]	20,900,000		20,900,000
Randolph Reservoir, Va.[1]	23,700,000		23,700,000
Schoolfield Reservoir, Va. and N. C.[1]	30,100,000		30,100,000
Smith Mountain Reservoir, Va.[1]	28,000,000		28,000,000
Stuart Reservoir, Va. and N. C.[1]	9,000,000		9,000,000
Taber Reservoir, Va.[1]	8,500,000		8,500,000
Washington:			
Hoquiam, Aberdeen, and Cosmopolis	1,780,000	83,600	1,696,400
Skagit River	3,150,000		3,150,000
Spokane River	32,900	2,900	30,000
West Virginia:			
Big Bend Reservoir	12,068,000		12,068,000
Brooklyn	4,543,000		4,543,000
Clifton	201,000		201,000
Follansbee	2,194,700		2,194,700
Friendly	572,000		572,000
Harpers Ferry	395,000		395,000
Hartford	2,508,000		2,508,000
Henderson	381,500		381,500
Letart	819,000		819,000
Mason	904,000		904,000
Millwood	736,000		736,000
Moorefield	300,000	7,900	292,100
Moundsville	2,513,900		2,513,900

See footnotes at end of table, p. 40.

Schedule of Public Works construction programs (inactive authorized projects)—Con.

FLOOD CONTROL, GENERAL—Continued

Name and location of project	Total estimated cost	Funds available or required	
		Actual to June 30, 1951	Additional to complete
West Virginia—Continued			
New Cumberland	$2,273,400		$2,273,400
Proctor	292,000		292,000
Ravenswood	1,283,000		1,283,000
Riverview	769,000		769,000
Sisterville	1,545,000		1,545,000
St. Marys	1,319,000		1,319,000
Warwood	1,426,400		1,426,400
Waverly	3,038,000		3,038,000
Wellsburg	2,699,700	$6,400	2,693,300
Wheeling (North Wheeling)	12,788,100		12,788,100
Williamstown	2,249,000		2,249,000
Woodlands	180,000		180,000
West Fork Reservoir (Monongahela River Basin)	17,433,400		17,433,400
Wisconsin:			
Black River Reservoir	20,500,000		20,500,000
Janesville and Indian Ford Dams	29,000		29,000
Total	1,299,086,700	5,536,100	1,293,550,600

[1] Included in the approved comprehensive plan for the Roanoke River Basin. Additional authorization required before construction can be initiated.
[2] Included in the approved comprehensive plan for the Savannah River Basin. Additional authorization required before construction can be initiated.
[3] Included in the approved comprehensive plan for the Ouachita River Basin. Additional authorization required before construction can be initiated.

EXPIRED PROJECT AUTHORIZATIONS PURSUANT TO SECTION 2 OF 1941 FLOOD CONTROL ACT, FLOOD CONTROL, GENERAL

STATE AND PROJECT

Alabama:
Brewton
Flomaton
Kansas: Lawrence
Montana: Wibaux
New York:
Panther Mountain Reservoir
Owasco Lake
Canandaigua Lake
North Dakota: Marmarth
Pennsylvania:
Bloomsburg
Harrisburg
Jersey Shore
Lockhaven
Milton
Montgomery
Muncy
Rhode Island:
Clyde
Pontiac Diversion
West Virginia: Buckhannon

ENGINEERING NEWS-RECORD INDEX

Mr. RABAUT. To what extent do you rely upon the application of the Engineering News-Record index in presenting changes in estimated costs to Congress?

General PICK. We rely upon that generally both for military- and civil-works construction. However, we have been making a much greater use the last few years of our actual experience in letting work.

Mr. RABAUT. Do you find there is a close relationship to their findings and yours?

General PICK. Yes, sir. We are up against the same proposition that the contractor is up against. He uses those indexes for bidding, especially these jobs that take a long time. He takes those and he makes full use of them, and then he knows that he is in a competitive field. He includes in his estimate the proper amount for insurance, the proper amount for maintenance of equipment, the proper amount

for rental of equipment, the proper amount for bonding purposes, and a reasonable profit in his bid. After he has prepared his estimate of the actual cost of his work, he may say, "Well, now, that will not get me the job." And he may cut his estimate by some percent and call that his lump-sum bid. But he uses the index to prepare his detailed estimate, especially on long-term contracts.

BENEFITS

Mr. RABAUT. What periodic review does the corps make on the benefit-cost ratios assigned to the individual projects?

General PICK. Mr. Rabaut, whenever we take up a project for consideration, with a view to its becoming active in the planning or construction stage, we restudy and reevaluate the benefits of that project, and we do not recommend that money be expended for planning unless it has a satisfactory economic ratio.

Mr. RABAUT. What method do you use to see that your various districts use uniform methods in assigning benefits?

General PICK. That is accomplished through letters, memoranda, personal conferences, personal letters by the Chief of Engineers. It is a continuous process. We have two or three meetings a year of all our division engineers, and we require them to have meetings of their district engineers. That is being carried on continuously, sir.

Mr. RABAUT. Could not the Corps of Engineers, with their varied experience, develop a series of general engineering formulas that, when applied to a given problem, would aid in the development of a useable and reasonable estimate?

General PICK. All survey reports are checked in the division offices of the district under which the report is made. Then it is sent to my office and checked there, including the estimated economic benefits. Then it goes before the Board of Engineers for Rivers and Harbors, where it is given a thorough check by a disinterested group. The economics is one thing that has to be right in the reports or the Board sends the report back.

General CHORPENING. The Board also checks for uniformity of the principles throughout all of our districts.

General PICK. The governing body that we have there is the Board of Engineers for Rivers and Harbors, and they see that the criteria used is consistent throughout the reports.

GENERATOR CAPACITY

Mr. RABAUT. Furnish for the record a statement showing your present installed generator capacity by projects and that planned annually through 1956.

General PICK. Yes, sir; we can do that.

(The information requested is as follows:)

Data on hydroelectric power installations at Corps of Engineers projects

Project	Present installed capacity (kilowatts)	1952	Proposed installations (kilowatts) by fiscal years			
			1953	1954	1955	1956
FLOOD CONTROL, GENERAL						
Projects in 1953 budget estimate:						
Blakely Mountain Reservoir, Ark.					75,000	
Bull Shoals Reservoir, Ark. and Mo.		40,000	120,000			
Clark Hill Reservoir, Ga. and S. C.			120,000	120,000	40,000	
Albeni Falls Reservoir, Idaho					42,600	
Gavins Point Reservoir, Nebr. and S. Dak.						33,333
John H. Kerr Reservoir, Va. and N. C.			204,000			
Garrison Reservoir, N. Dak.					80,000	160,000
Fort Gibson Reservoir, Okla.			45,000			
Tenkiller Ferry Reservoir, Okla.			34,000			
Detroit Reservoir, Oreg.			50,000	68,000		
Lookout Point Reservoir, Oreg.					130,000	
Fort Randall Reservoir, S. Dak.				80,000	120,000	120,000
Dale Hollow Reservoir, Tenn.	36,000		18,000			
Whitney Reservoir, Tex.			30,000			
Projects not in 1953 budget estimate:						
Narrows Reservoir, Ark.	17,000					
Norfolk Reservoir, Ark. and Mo.	70,000					
Allatoona Reservoir, Ga.	74,000					
Wolf Creek Reservoir, Ky.		180,000	90,000			
Denison Reservoir, Tex. and Okla.	70,000					
Center Hill Reservoir, Tenn.	135,000					
Philpott Reservoir, Va.			14,000			
Total	402,000	220,000	725,000	268,000	487,600	313,333
RIVERS AND HARBORS						
Projects in 1953 budget estimate:						
Jim Woodruff lock and dam, Apalachicola River, Fla.					30,000	
Celina Dam, Cumberland River, Ky.						43,200
Fort Peck Dam, Mont.	50,000	35,000				
McNary lock and dam, Columbia River, Oreg. and Wash.				280,000	280,000	280,000
Carthage Dam, Cumberland River Basin, Tenn.					46,000	46,000
Cheatham lock and dam, Cumberland River, Tenn.					12,000	24,000
Old Hickory lock and dam, Cumberland River, Tenn.					75,000	25,000
Chief Joseph Dam, Columbia River, Wash.						384,000
Projects not in 1953 budget estimate:						
Bonneville lock and dam, Oreg. and Wash.	518,400					
St. Marys River, Mich. (power plant)		16,400		2,000		
Total	568,400	51,400		282,000	356,000	802,200
Grand total	970,400	271,400	725,000	550,000	843,600	1,115,533

SHORTAGE OF CRITICAL MATERIALS

Mr. RABAUT. What arrangements have you made with reference to securing critical materials for your projects?

General PICK. We can give you that, sir.

Mr. RABAUT. You can also put a statement in the record, but we would like to hear about it. Will you comment on it?

General PICK. We are the claimants, except for power projects. The Chief of Engineers is the claimant agency for the critical materials with NPA. So far we have been able to get, without excessive delays, the scarce materials that we have needed. Mr. Chairman, I am glad to tell you that the NPA says the reason we have been able to get those critical materials allocated where needed was because we were able to present our case in the detailed manner that was desired.

(The information requested is as follows:)

Under the controlled materials plan the Defense Production Administration requires that estimated requirements of steel, copper, and aluminum be filed with that agency by quarters of the calendar year. These quarterly requirements are furnished DPA usually four quarters in advance of the time they will be required at the job site and are revised quarterly.

The Secretary of the Army is claimant for controlled materials for other than power projects constructed by the Corps of Engineers. The projects and the amounts included in approved budget estimates and in estimates on which congressional action is pending are used as the basis for estimating requirements for controlled materials. Each quarter's requirements are reviewed by the office of the Chief of Engineers and screened by the DPA some 3 to 4 months prior to allocation of materials for that quarter. By this method it is possible to keep abreast of any changes made in the general program and to furnish DPA the best available estimate of actual requirements of the civil works program.

Generally the DPA has provided sufficient materials to permit orderly prosecution of authorized projects. Quantities provided together with substitutes when practicable have been sufficient to prevent serious delay to any project and to maintain a suitable rate of construction.

The Defense Electric Power Administration is claimant for controlled materials required for power projects under construction by the Corps of Engineers. The method of submitting estimates and subsequent allocation of controlled materials to power projects under DEPA claimancy is similar to that described above. The rescheduling of other than power projects as previously described is under direct control of the Chief of Engineers. The scheduling of work on power projects can be controlled by the Defense Electric Power Administration by the allocation of controlled materials. To date provision of materials by DEPA has been sufficient to keep all work fairly well on schedule.

Mr. RABAUT. Do you anticipate any difficulty in fiscal 1953?

General PICK. We have not had any indications of it, sir.

Mr. RABAUT. You do not anticipate it, then?

General PICK. No, sir.

Mr. RABAUT. To what extent are your power plans in the budget coordinated with the Defense Electric Power Administration?

General PICK. They are fully coordinated with the Defense Electric Power Administration. We work very closely with them all of the time.

NEW PROJECTS FOR 1953

Mr. DAVIS. General, what criteria did you use in picking out these six new projects on which you plan to initiate construction in this fiscal year?

General PICK. The criteria that we used for picking out those projects was based upon requirements of one kind or another. For instance, Keokuk Lock is an old lock in a relatively modern inland waterway. It is in very bad condition and it needs repairs. I mean, it needs rebuilding, and it has needed rebuilding for several years. That is a link in a very busy waterway, the upper Mississippi.

The inclusion of the Ice Harbor project is based on the requirements of the Defense Electric Power Administration, working with other defense bodies, and they determined what additional electric power was required right there. We were told that that particular project was needed for that purpose, and that was a project that was included in the budget last year, based upon power requirements.

Mr. DAVIS. I gather from that, then, Ice Harbor was not picked out by you on the basis of any comparing criteria with other projects, but some outside source in the Government told you to include it. Is that correct?

General PICK. It was picked out—that is it was selected for construction by the Budget and requests were made by at least one of

the other governmental agencies in connection with the need for satisfying defense power requirements.

General PICK. The Ice Harbor project was in the budget last year, sir.

Mr. DAVIS. And several times before that, too.

General PICK. That is right; but each time it was because of the same thing, the power requirements of the area.

Mr. DAVIS. Generally speaking, are these projects that you picked out individually in your organization as being critical, or are they included because of suggestion or something stronger than that, from other agencies of the Government?

General PICK. The main reason for Ice Harbor was electric power of the area. With respect to the Hartwell project there are firm demands for that power. The power that they are going to require for AEC facilities down there is going to far exceed anything that they can get in the area.

Now you get down to Tuttle Creek. The story on Tuttle Creek is well known to everybody. That is a key structure in the Kansas Basin for controlling floods. I have known that for many years, and I have had it in every program I have had since the war.

Cape Girardeau and Topeka: Cape Girardeau is one of those that has been authorized for some time, and nothing has been done. We know that the flood last year did tremendous damage down there. When floods occur on the Mississippi River at that point, they go right into the main street of the town. The story of Topeka is also well known. Topeka was completely under water during the last flood.

If that project had been built, it would have saved a lot of the town.

Mr. DAVIS. Did the inclusion of Tuttle Creek in this budget take into consideration the conference-committee agreement of last year that a study be made of this area?

General PICK. Mr. Davis, there was a statement like that in the conference report last year, but the Public Works Committee has not completed action. They sent some people out there. I have had Tuttle Creek in every program I have prepared for 6 or 7 years.

ELECTRIC POWER

Mr. DAVIS. I notice, General, that, at least so far as the construction program of the Corps of Engineers goes, the available hydroelectric power is going to be just about doubled in this fiscal year and in the next.

General PICK. That is right. We have quite a few projects going on the line and they are widely distributed over the United States.

Mr. DAVIS. We did not hear such a great amount about hydroelectric shortages until the last couple of years. With the doubling of capacity we seem to hear more about it than ever before, and that is something that I cannot quite understand.

General PICK. If you will notice the power-consumption figures, sir, they are steadily setting new peaks every month. I noticed the figure for December the other day, and it has established another record. Electric power is being used very greatly now. A tremendous number of people use electricity for cooking.

Mr. DAVIS. Can you offhand give me an idea of the total amount of electric power being consumed in this country now?

Colonel PAULES. The present capacity in the United States totals about 75,000,000 kilowatts, and approximately 20 percent of that is hydro. The peak for 1952, the peak week, on December 21, I believe, was about 7.7 million kilowatt-hours, which is about 11 or 12 percent above last year. It has maintained that pace at about 11 or 12 percent above the peak of last year, week by week.

Mr. DAVIS. Are the other sources of development of electric power, generally speaking, keeping pace with what the Army engineers are doing in expanding their facilities?

General PICK. This is just my observation, sir.

Mr. DAVIS. That is all I desire.

General PICK. The other agencies of the Government that would produce power are the Bureau of Reclamation and the TVA. I do know of private power companies installing additional power capacity all over the country. For instance, last fall I was invited down to Mobile, Ala., where the Alabama Power Co. broke ground for the building of a steam-power plant that will produce a million kilowatts. It was just above Mobile, on the river. In addition to that, they have developed, in the Southeast, steam plants in various areas where hydroelectric-power projects are being built to firm up that power. That is going on all over the States. The power that is developed from a hydroelectric project is sold before it is put on the line. The amount of power that is now being used by REA in the United States is rapidly expanding each month. The REA people were over to see me the other day and they are trying in every way they possibly can to get more power produced in every area which they serve. Everybody is using more electric power.

ICE HARBOR LOCK AND DAM, WASH.

Mr. DAVIS. Has the Ice Harbor project been reevaluated in your office since last fall?

General PICK. Since October, I do not think there has been anything done. But it was reevaluated when we were considering the budget, this particular budget. You see, the appropriation bill was passed in October.

Mr. Beard, will you answer that, if you can? Have we done anything about Ice Harbor estimates?

Mr. BEARD. We have not actually spent any money on design or reanalysis, because it was specifically prohibited in the conference report.

Mr. DAVIS. I was thinking whether you have reevaluated your thinking as to the necessity of the construction of this project now.

Mr. BEARD. In connection with the planning report we have reevaluated the benefit-cost ratio, based on available information.

Now, concerning the other side of this question, the Department of Interior, Defense Electric Power Administration, have gone in and made a very thorough analysis on the needs for the power, and they have written some very pointed letters to us and to others, urging immediate construction of the project for supplying the power in the Northwest, and specifically supplying power to the Hanford Works

of the AEC. So I would say, in summary, that they have found that the power is badly needed in the immediate future.

Mr. DAVIS. Then, if they need it in the immediate future, they will not get it from Ice Harbor, will they?

Mr. BEARD. As quickly as it can be built. That is what I mean by that.

General PICK. Mr. Davis, if you are trying to determine whether or not we started out to actively engage to get this project in the next budget after the statement that was included in the conference report last year, I can tell you the answer is "No."

Mr. DAVIS. No; I did not quite mean that, General. But this and The Dalles were requested both last year, and we had considerable general language in our report last year about them both. The Dalles is a big project. It looks bigger every time we see a new estimate for it. I wondered if the need for Ice Harbor had been reevaluated in your office, since it did become evident that you were going to be in a position to go through with The Dalles project.

General PICK. Not much of anything was done on it, except that the estimate we used is one that is current, based upon the date of July 1951, the date for figuring the cost of projects in the budget this year.

In other words, it was bringing it up to date, to July 1.

Mr. DAVIS. Was the decision made in your office and/or in the Bureau of the Budget while the issue of the commencement of the construction of The Dalles was still in doubt?

General PICK. No, sir. The decision was not made then. The decision was made after that, sir.

EMPLOYEE SUGGESTION PROGRAM

Mr. FORD. General, in reading the Washington Sunday Star of January 13, I noticed a news story to the effect that a civilian wins $1,600 because he saved the Army Corps of Engineers $982,000. His name is Wendell H. Davis. Did that come as a saving in this part of the budget or in another part of the budget?

General PICK. That was awarded by a board, based upon the experience that we have had that if we had had that process in effect we could have saved that much money.

Mr. FORD. Was it a saving that was made, or will be made, out of this part of the budget, or out of the military construction part of the budget?

General PICK. That does not have anything to do with any particular budget.

Mr. FORD. It is a saving to the Corps of Engineers?

General PICK. It is a saving to the Corps of Engineers and the Government.

Mr. FORD. Would it not be reflected in your budget figures, though, some place?

General PICK. You mean reducing that amount from somewhere?

Mr. FORD. I would imagine so; yes.

General PICK. That saving would be over a period of time.

Mr. FORD. The newspaper story says:

Wendell H. Davis, of 3871 Rodman Street NW., has been awarded a prize of $1,600 by the Army Department for saving the Corps of Engineers an estimated

$982,000 last year. Mr. Davis, a civilian engineer in the Military Construction Division of the Army engineers, was given the award for a suggestion on the use of autopositive film in duplicating structural designs, drawings and designs.

I am very pleased to see that he made the suggestion, and that he got the award, but how is that reflected in your budget?

General PICK. It is not reflected in the budget, sir. In other words, you could not take some project and say that, because this man made the suggestion, that you are going to cut the budget down by this much.

Mr. FORD. There must be some reflection in your expenditure.

General PICK. I do not know, but I believe it would be a saving in administrative costs.

Mr. FORD. Here is the news story. That has to cause a reflection some place in the expenditures that the Corps of Engineers is going to make, or has made.

General PICK. I will have to try and determine the facts in the case for you. I will be glad to look into it. You see, they drop the suggestion in the box, and it is reviewed by a board that determines the value of the suggestion and recommends an appropriate award.

Mr. FORD. I think it is a very fine and most admirable method.

General PICK. That procedure has been going on for a long time.

Mr. FORD. Is it not logical for the committee to expect that there would be some reflection in expenditures?

General PICK. The saving could come into the military budget, the Air Force budget, or it may be in the Army, or it may be in both. I will be glad to look it up for you.

(The information requested was not supplied at the time of printing and may be found in the appendix at the end of the printed hearings, part 1.)

GENERAL RECEIPTS

Mr. FORD. Last year, on page 88 of the hearings, you inserted a chart showing power receipts, lease of flood control lands receipts, and miscellaneous receipts for the fiscal years 1946, 1947, 1948, and 1949. I noticed that in your general statement on page 7 there was a statement to the effect that $13,930,344 was collected in the sale of power generated at Corps of Engineers projects during the fiscal year 1951. I presume that figure would be part of the same type of a table. I think it would be helpful to extend that table, not only for the fiscal years mentioned, but for the fiscal years 1950 and 1951. Is that possible?

General PICK. Yes, sir.

General CHORPENING. I believe that that information has been requested.

RENTAL POLICIES

Mr. FORD. Last year we had, General, considerable discussion about rental policies of the Corps of Engineers' facilities, and, as I recall, there was a directive issued by Mr. Pace, stipulating that there should be an increase in rental charges. Has that been put into effect by the Corps of Engineers since then?

General PICK. Rentals on housing?

Mr. FORD. Housing facilities.

General PICK. There is a directive to study housing and rentals, in many different categories, including civil works. It has not been completed yet.

Mr. FORD. We had General Horkan up this morning from the Quartermaster Corps. He gave us specific figures showing how much they received in the last fiscal year, or they will receive, from housing rentals, and what they anticipate they will receive on rentals from housing facilities in the next fiscal year. It was slightly more than a 100 percent increase. They based that on a directive which apparently had been issued.

General PICK. Perhaps they have put out one for the military posts.

Mr. FORD. Would not the same directive be applicable to the Corps of Engineers' facilities?

General PICK. No, sir. They administer it entirely differently.

Mr. FORD. You will recall rather lengthy discussions we had about the inadequacy of the rents that were charged personnel using the housing facilities. I think the committee specifically directed that something be done about it. It was our understanding that Secretary Pace had taken action. If he has not, something ought to be done to insure that he does.

General PICK. Let me ask General Chorpening about that.

General CHORPENING. I checked just the other day on the situation in connection with this. There has been a considerable amount of study done by our office. To date there have been no instructions issued to us changing the rules that have been in effect for some time. That is all I can state. I just happened to inquire into it a day or two ago.

Mr. FORD. Would you not check to see if there has been isued a directive by Secretary Pace?

General CHORPENING. I did, and there has been no directive issued to us at this time.

General PICK. We can look into it to see what the status of it is, and that information will be given to the committee the next time we come up, if that is satisfactory.

Mr. FORD. I would appreciate a statement in the record on any and all information you might have on that.

(The information requested was not supplied at the time of printing and may be found in the appendix at the end of the printed hearings, part 2.)

General PICK. Mr. Chairman, I would like to make one more statement for the record before we close.

Mr. KERR. We shall be glad to have you make that statement, General.

PERSONNEL LIMITATIONS

General PICK. It is a question of personnel. I made this same statement before the Bureau of the Budget. I cannot move any more of my office out of Washington. I cannot do any more work with the personnel I have. I cannot do my work as thoroughly as I think it should be done with the amount of personnel I have now.

Included in this budget is the amount of $1,790,000 for departmental personnel. Last year the pay increase provided classified employees resulted in having to pay more for personnel, which in turn cuts my ceiling down on the number of employees that can be employed within the limitation on funds.

I think in my office this year my total budget for this fiscal year will run around $6,500,000,000. I want to tell you that, in my opinion, I do not have enough personnel to do the work as thoroughly as it should be done.

Mr. RABAUT. Have you requested more personnel this year?

General PICK. I have requested a small increase for personnel for departmental, in my office.

Mr. KERR. General, do you want to look over that problem and tell us what you need?

General PICK. I would like to be able to do that, sir.

Mr. KERR. We will be glad to hear you on it any time.

Mr. RABAUT. Thank you very much, gentlemen.

THURSDAY, JANUARY 17, 1952.

MAINTENANCE AND IMPROVEMENT OF EXISTING RIVERS AND HARBOR WORKS

Amounts available for obligations

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate	$187,022,500	$192,657,613	$286,675,000
Proposed supplemental due to pay increases		1,000,000	
Prior year balance available	17,305,609	18,243,631	
Reimbursements from non-Federal sources	2,880,458	3,600,000	4,000,000
Reimbursements from other accounts	14,392,201	18,583,000	19,000,000
Total available for obligation	221,600,768	234,084,244	309,675,000
Balance available in subsequent year	−18,243,631		
Obligations incurred	203,357,137	234,084,244	309,675,000
Comparative transfer from "Power plant, Bonneville Dam, Columbia River, Oreg., construction"	37,504	87,327	
Total obligations	203,394,641	234,171,571	309,675,000

NOTE.—Reimbursements from non-Federal sources are received from private individuals, commercial concerns, nonappropriated funds, and States and municipalities (33 U. S. C. 558, 559, 571, 701, and 701k).

Obligations by activities

Description	1951 actual	1952 estimate	1953 estimate
Direct Obligations			
MAJOR CAPITAL OUTLAY			
1. Construction:			
(a) Channels and harbors:			
(1) Arkansas River and tributaries (bank stabilization) Arkansas and Oklahoma	$1,026,865	$4,166,416	$2,000,000
(2) Jacksonville to Miami Waterway, Fla	414,321	2,235,679	2,200,000
(3) Mississippi River between the Ohio and Missouri Rivers: Chain of Rocks Canal	8,804,629	5,000,000	1,297,000
(4) Missouri River, Kansas City, Mo., to Sioux City, Iowa	3,640,449	4,115,009	5,000,000
(5) Baltimore Harbor and Channels, Md	612,475	840,718	800,000
(6) Missouri River, Kansas City, Mo., to mouth	2,220,273	2,331,709	3,500,000
(7) Newark Bay, Hackensack and Passaic Rivers, N. J	1,202,349	732,000	508,000
(8) New York and New Jersey Channels	2,411,162	1,484,989	912,000
(9) Buffalo Harbor, N. Y	910,138	327,564	436,000
(10) New York Harbor, N. Y	470,475	400,746	524,000
(11) Cleveland Harbor, Ohio	43,947	1,227,284	6,000,000
(12) Schuylkill River above Fairmount Dam, Pa	38,284	1,921,668	1,200,000
(13) Gulf Intracoastal Waterway between Apalachee Bay, Fla., and the Mexican border (Galveston District)	882,619	848,270	1,386,000
(14) All other	16,603,523	15,164,081	

Obligations by activities—Continued

Description	1951 actual	1952 estimate	1953 estimate
Direct Obligations—Continued			
MAJOR CAPITAL OUTLAY—continued			
1. Construction—Continued			
(b) Locks and dams:			
(1) Demopolis Lock and Dam, Black Warrior, Warrior, and Tombigbee Rivers, Ala	$2,202,337	$4,000,000	$5,500,000
(2) Mississippi River between Missouri River and Minneapolis, Minn.:			
Lock No. 19, Keokuk, Iowa	41,766	58,234	2,500,000
St. Anthony Falls, Minn	494,400	1,500,000	1,792,700
Other features	1,475,742	361,476	70,000
(3) Monongahela River, Pa. and W. Va	5,458,677	4,034,532	2,930,000
(4) Cheatham Lock and Dam, Cumberland River, Tenn. and Ky	1,867,302	3,044,376	6,000,000
(5) All other	750,000	1,291,645	
(c) Multiple-purpose projects:			
(1) Jim Woodruff Lock and Dam, Apalachicola, Chattahoochee and Flint Rivers system, Georgia and Florida	2,922,000	6,300,000	11,330,300
(2) Buford Dam, Apalachicola, Chattahoochee and Flint Rivers system, Georgia and Florida	1,327,388	900,000	3,000,000
(3) McNary Lock and Dam, Oreg. and Wash	37,195,440	44,681,738	66,000,000
(4) The Dalles Lock and Dam, Oreg. and Wash	579,296	4,220,704	37,500,000
(5) Old Hickory Lock and Dam, Tenn	398,716	2,051,284	16,000,000
(6) Chief Joseph Dam, Columbia River, Wash	18,179,948	17,312,852	25,300,000
(7) Ice Harbor Lock and Dam, Wash	32,227		5,000,000
(8) All other	1,665,059	1,981,909	
(d) Fish and wildlife construction	1,805,307	1,965,256	4,256,865
Planning	1,038,406	2,092,357	800,000
CURRENT EXPENSES			
1. Operation and maintenance of projects:			
(a) Channels and harbors (including dredging, jetties, and breakwaters)	40,419,917	45,903,809	43,488,000
(b) Operation and care of locks, dams, and canals	18,361,241	21,335,797	20,118,000
(c) Operation and care of multiple-purpose projects	3,203,419	1,824,911	3,100,000
(d) Operation and care of fish facilities	96,187	302,500	669,135
Operation and maintenance, special:			
(a) Removing sunken vessels and other obstructions to navigation	912,704	590,169	750,000
(b) Protecting, clearing, straightening channels of navigable waters not specifically authorized by Congress (work under sec. 3, River and Harbor Act, Mar. 2, 1945)	177,977	133,540	300,000
(c) Survey of northern and northwestern lakes	422,817	327,543	300,000
3. Examinations and surveys:			
(a) River and harbor studies	945,461	605,476	600,000
(b) Arkansas-White and Red River Basins survey	188,471	105,588	200,000
(c) New England-New York survey	100,000		300,000
(d) Beach erosion studies	308,817	424,165	150,000
(e) Stream gaging studies	144,838	205,682	70,000
(f) Fish and wildlife studies	637,388	54,947	15,000
4. Regulation:			
(a) Regulation of hydraulic mining on Sacramento and San Joaquin Rivers (California Debris Commission)	4,420	13,406	8,000
(b) Prevention of illegal deposits in New York Harbor	431,853	407,410	430,000
(c) Miscellaneous inspections, investigations, issuance of permits, harbor lines, commercial statistics, etc. (contingencies)	1,890,900	1,947,611	1,305,000
5. Administration:			
(a) Salaries, Office, Chief of Engineers (allotment roll)	601,750	653,500	697,000
(b) Expenses, river and harbor board	466,208	430,195	324,000
(c) Expenses, beach erosion board	92,094	129,826	108,000
Total direct obligations	186,121,982	211,988,571	286,675,000
Obligations Payable Out of Reimbursements From Other Accounts			
MAJOR CAPITAL OUTLAY			
1. Construction:			
(c) Multiple-purpose projects:			
(1) Corps of Engineers (military functions)	33,928	65,400	45,000
(2) Other Department of the Army military functions	68,428	132,200	89,000
(3) Department of the Air Force	67,226	130,400	88,000
(4) Atomic Energy Commission	71,415	137,800	98,000
(5) Department of the Interior	204,000	393,200	270,000
(6) Non-Federal agencies	261,257	491,000	335,000

Obligations by activities—Continued

Description	1951 actual	1952 estimate	1953 estimate
Obligations Payable Out of Reimbursements From Other Accounts—Continued			
CURRENT EXPENSES			
1. Operation and maintenance of projects:			
(a) Channels and harbors (including dredging, jetties, and breakwaters):			
(1) Corps of Engineers (military functions)	$6,991,091	$8,586,600	$9,279,000
(2) Other Department of the Army military functions	1,785,370	2,300,000	2,350,000
(3) Department of the Air Force	3,725,249	4,800,000	4,850,000
(4) Department of the Navy	108,609	141,000	150,000
(5) Department of the Interior	119,093	154,000	160,000
(6) Other Federal agencies	1,157,737	1,505,000	1,550,000
(7) Non-Federal agencies	2,536,657	3,168,000	3,558,000
(b) Operation and care of locks, dams, and canals (non-Federal agencies)	65,480	79,200	80,000
3. Examinations and surveys:			
(a) River and harbor studies (Department of the Navy)	1,097	1,400	2,000
4. Regulation:			
(b) Prevention of illegal deposits in New York Harbor (non-Federal agencies)	1,349	1,600	2,000
(c) Miscellaneous inspections, investigations, issuance of permits, harbor lines, commercial statistics, etc. (contingencies) (non-Federal agencies)	15,715	20,200	25,000
5. Administration:			
(a) Salaries, Office, Chief of Engineers (allotment roll) (Department of the Interior)	2,801	3,000	----------
(c) Expenses, beach erosion board (Corps of Engineers, military functions)	56,157	73,000	74,000
Total obligations payable out of reimbursements from other accounts	17,272,659	22,183,000	23,000,000
Total obligations	203,394,641	234,171,571	309,675,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
CORPS OF ENGINEERS			
Summary of Personal Services			
Total number of permanent positions	17,357	17,890	18,512
Full-time equivalent of all other positions	1,003	1,044	1,041
Average number of all employees	16,096	17,122	17,961
Average salaries and grades:			
General schedule grades:			
Average salary	$4,472	$4,953	$4,956
Average grade	GS-7.1	GS-7.1	GS-7.1
Crafts, protective, and custodial grades:			
Average salary	$3,131	$3,509	$3,520
Average grade	CPC-5.6	CPC-5.6	CPC-5.6
Ungraded positions: Average salary	$2,846	$3,097	$3,100
Personal service obligations:			
Pay and allowances to commissioned officers	$544,510	$550,000	$550,000
Permanent positions	55,911,613	64,045,998	67,946,956
Part-time and temporary positions	3,133,309	3,266,000	3,266,000
Regular pay in excess of 52-week base	----------	246,002	261,044
Payment above basic rates	4,897,176	5,129,000	5,129,000
Total personal service obligations	64,486,608	73,237,000	77,153,000
Direct Obligations			
01 Personal services:			
Civilian	54,070,489	61,387,000	65,103,000
Pay and allowances to commissioned officers	544,510	550,000	550,000
02 Travel	1,403,839	1,480,000	1,575,000
03 Transportation of things	963,120	975,000	900,000
04 Communication services	555,970	570,000	590,000
05 Rents and utility services	1,149,867	1,400,000	1,500,000
06 Printing and reproduction	190,246	250,000	260,000

Obligations by objects—Continued

Object classification	1951 actual	1952 estimate	1953 estimate
CORPS OF ENGINEERS—continued			
Direct Obligations—Continued			
07 Other contractual services	$10,078,008	$13,100,000	$16,000,000
Services performed by other agencies	2,142,020	2,300,000	2,500,000
08 Supplies and materials	11,806,889	13,000,000	12,000,000
09 Equipment	4,405,905	5,000,000	5,000,000
10 Lands and structures	97,378,148	110,666,368	169,265,500
13 Refunds, awards, and indemnities	6,327	6,500	6,500
15 Taxes and assessments	40,475	128,000	146,000
Subtotal	184,735,813	210,812,868	282,896,000
Deduct charges for quarters and subsistence	1,152,713	1,162,000	1,162,000
Total direct obligations	183,583,100	209,650,868	281,734,000
Obligations Payable Out of Reimbursements From Other Accounts			
01 Personal services: civilian	9,871,609	11,300,000	11,500,000
02 Travel	448,594	652,000	690,400
03 Transportation of things	14,631	21,500	22,700
04 Communication services	144,549	212,500	225,000
05 Rents and utility services	714,824	1,050,800	1,112,800
06 Printing and reproduction	43,989	64,600	68,400
07 Other contractual services	3,202,974	4,708,409	4,961,950
08 Supplies and materials	1,555,246	2,292,710	2,427,900
09 Equipment	695,318	1,022,000	1,082,300
10 Lands and structures	574,015	843,800	893,600
15 Taxes and assessments	6,910	14,690	14,950
Total obligations payable out of reimbursements from other accounts	17,272,659	22,183,000	23,000,000
Total obligations	200,855,759	231,833,868	297,234,000
ALLOCATION TO FISH AND WILDLIFE SERVICE, DEPARTMENT OF INTERIOR			
Total number of permanent positions	45	49	89
Full-time equivalent of all other positions	26	59	50
Average number of all employees	69	102	134
Average salaries and grades:			
General schedule grades:			
Average salary	$3,970	$3,969	$3,980
Average grade	GS–6.3	GS–5.1	GS–5.1
01 Personal services:			
Permanent positions	$162,741	$195,089	$356,527
Part-time and temporary positions	81,831	187,630	157,454
Regular pay in excess of 52-week base		749	1,369
Payment above basic rates	5,328		
Total personal services	249,900	383,468	515,350
02 Travel	13,952	20,450	27,000
03 Transportation of things	3,296	3,050	6,000
04 Communication services	1,413	1,300	2,500
05 Rents and utility services	3,109	3,000	13,500
06 Printing and reproduction	384	650	650
07 Other contractual services	1,590,895	1,611,285	3,937,000
08 Supplies and materials	45,271	95,600	187,000
09 Equipment	37,266	9,800	227,000
10 Lands and structures	592,922	208,000	22,000
15 Taxes and assessments	474	1,100	3,000
Total obligations	2,538,882	2,337,703	4,941,000
Summary of Personal Services			
SUMMARY			
Total number of permanent positions	17,402	17,939	18,601
Full-time equivalent of all other positions	1,029	1,103	1,091
Average number of all employees	16,165	17,224	18,095
Personal service obligations:			
Pay and allowances to commissioned officers	$544,510	$550,000	$550,000
Permanent positions	56,074,354	64,241,087	68,303,483
Part-time and temporary positions	3,215,140	3,453,630	3,423,454
Regular pay in excess of 52-week base		246,751	262,413
Payment above basic rates	4,902,504	5,129,000	5,129,000
Total personal service obligations	64,736,508	73,620,468	77,668,350

Obligations by objects—Continued

Object classification	1951 actual	1952 estimate	1953 estimate
Direct Obligations			
01 Personal services: Civilian	$54,320,389	$61,770,468	$65,618,350
Pay and allowances to commissioned officers	544,510	550,000	550,000
02 Travel	1,417,791	1,500,450	1,602,000
03 Transportation of things	966,416	978,050	906,000
04 Communication services	557,383	571,300	592,500
05 Rents and utility services	1,152,976	1,403,000	1,513,500
06 Printing and reproduction	190,630	250,650	260,650
07 Other contractual services	11,668,903	14,711,285	19,937,000
Services performed by other agencies	2,142,020	2,300,000	2,500,000
08 Supplies and materials	11,852,160	13,095,600	12,187,000
09 Equipment	4,443,171	5,009,800	5,227,000
10 Lands and structures	97,971,070	110,874,368	176,787,500
13 Refunds, awards, and indemnities	6,327	6,500	6,500
15 Taxes and assessments	40,949	129,100	149,000
Subtotal	187,274,695	213,150,571	287,837,000
Deduct charges for quarters and subsistence	1,152,713	1,162,000	1,162,000
Total direct obligations	186,121,982	211,988,571	286,675,000
Obligations Payable Out of Reimbursements From Other Accounts			
01 Personal services, civilian	9,871,609	11,300,000	11,500,000
02 Travel	448,594	652,000	690,400
03 Transportation of things	14,631	21,500	22,700
04 Communication services	144,549	212,500	225,000
05 Rents and utility services	714,824	1,050,800	1,112,800
06 Printing and reproduction	43,989	64,600	68,400
07 Other contractual services	3,202,974	4,708,400	4,961,950
08 Supplies and materials	1,555,246	2,292,710	2,427,900
09 Equipment	695,318	1,022,000	1,082,300
10 Lands and structures	574,015	843,800	893,600
15 Taxes and assessments	6,910	14,690	14,950
Total obligations payable out of reimbursements from other accounts	17,272,659	22,183,000	23,000,000
Total obligations	203,394,641	234,171,571	309,675,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$89,871,042	$85,927,692	$101,828,936
Obligations incurred during the year	203,357,137	234,084,244	309,675,000
	293,228,179	320,011,936	411,503,936
Deduct:			
Reimbursable obligations	17,272,659	22,183,000	23,000,000
Unliquidated obligations, end of year	85,927,692	101,828,936	140,503,936
Total expenditures	190,027,828	196,000,000	248,000,000
Expenditures are distributed as follows:			
Out of current authorizations	190,027,828	100,100,000	167,900,000
Out of prior authorizations		95,000,000	80,000,000
Out of anticipated 1952 supplemental for pay increases		900,000	100,000

CONSTRUCTION

DEMOPOLIS LOCK AND DAM, ALABAMA

Mr. RABAUT. We will take up the Demopolis lock and dam, the Warrior system, Mobile to Birmingham, Ala. The total estimated cost is $20,843,000. The allotments to date total $7,438,800. The tentative allocation for fiscal 1953 is $5,500,000 and the percentage of completion as of 1952 will be 36 percent. The amount requested will bring it up to 62 percent.

Will you give a general statement of the project?

General CHORPENING. This is a continuing project and the major portions of the funds requested will go into the lock and dam construction. We have scheduled the completion of this dam for the end of the calendar year 1954. It is necessary that the construction continue without interruption in order to meet this date. We can progress on schedule with this amount.

TONNAGE DATA

Mr. RABAUT. What is the present traffic on the Warrior River as to the volume and type of traffic?

Mr. SMET. The summary is 2,602,022 tons in 1950. The principal commodities are wood and paper products, petroleum, coal, lignite, petroleum products, iron ore and concentrates, and iron- and steel-mill products. Limestone is an outstanding commodity with an estimated tonnage of 608,961 tons which accounts for a substantial percentage of the traffic.

Mr. RABAUT. What is the potential traffic?

Mr. SMET. In addition to the present tonnage they anticipate additional traffic in iron ore and in nonmetallic minerals.

GENERAL CHORPENING. I think between 4 and 5 million tons are expected eventually and at the present time, as is said in the justification sheet, there are two power plants being built which will require 1¼ million tons of coal, coming down to them from the vicinity of Birmingham. These plants are down in the lower part of the Mobile area.

Mr. RABAUT. So 5,000,000 tons will practically double the volume using the river now?

General CHORPENING. Yes, sir.

TYPE OF LOCKS

Mr. RABAUT. What type of locks are now being used on this waterway?

General CHORPENING. The present locks on this waterway are old, small hand-operated locks and of a type that are not suitable for current traffic and are a serious handicap toward the use of the present waterway for existing navigation.

Mr. RABAUT. What are your plans with reference to the modernization of these locks?

General CHORPENING. There is a plan for proceeding with the replacement and modernization of the locks as in the case of Demopolis. This lock and dam will replace four locks and dams which are now there and plans are authorized to progressively replace the others as required.

SLOW-UP OF TRAFFIC

Mr. RABAUT. Is it necessary at the present time to break up the tows to go through the locks?

General CHORPENING. Yes, sir.

Mr. RABAUT. That slows up the traffic doesn't it?

General CHORPENING. That slows up the traffic very considerably. As brought out previously it is expected that considerable shipments

of iron ore will come from South America and use this waterway and that the use of this waterway will increase as the years go by.

Mr. RABAUT. Are the new locks only in the planning stage?

General CHORPENING. In order to make it completely clear, there has been one modern lock built at Tuscaloosa which was finished some years ago. The other locks above Demopolis are of the old type.

Mr. RABAUT. And anything above Demopolis is only in the planning stage?

General CHORPENING. That is correct, sir.

Mr. RABAUT. Are any arrangements being made on this project so that power can be installed later if it is economically advisable?

General CHORPENING. No, sir.

STATUS OF DEMOPOLIS PROJECT

Mr. KERR. This is a $20,843,000 outlay for this project on which you are asking for just over one half of the funds through 1953.

General CHORPENING. By the end of this fiscal year, Judge, it will be 36 percent completed and with the funds we are requesting for 1953 it will be 62 percent.

TRAFFIC ON TOMBIGBEE-WARRIOR SYSTEM

Mr. DAVIS. General, I noticed you mentioned in your justification the connection between this project and the Tombigbee-Tennessee waterway. Can you divide for our benefit the potential of this project with respect to traffic, assuming first of all, that there is to be the Tombigbee-Tennessee waterway and then assuming there is not. Have you these figures separately?

General CHORPENING. Of all the traffic, the tonnage I have discussed here is traffic that will move up the Warrior and not by the other waterways, such as the Tombigbee-Tennessee waterway, that has been authorized. Any cost-benefit statements that are made here are without any inclusion of prospective benefits from the Tombigbee-Tennessee waterway. Does that answer your question?

Mr. DAVIS. Yes, sir. I believe it does.

In order that the full benefits be realized, will it be necessary to build new locks or modernize old locks downstream?

General CHORPENING. The over-all program contemplates the eventual replacement of the old locks. There are three below Demopolis that will be replaced and seven above. However, the benefits that we are claiming here are entirely derived from what will be accomplished by building the Demopolis lock and dam. When we replace four locks the amount of time saved is considerable for the shipping that traverses the waterway. It is true, that at some time the other obsolescent locks, when replaced, will improve our navigation scheme.

BENEFIT-COST RATIO

Mr. DAVIS. This benefit cost ratio is very low. Are you contemplating any other projects in this period of emergency that has as low a ratio as this one does?

General CHORPENING. Though the cost benefit ratio in this particular project is low, by its location, it, has a vital and direct impact on

national defense. No. This project was started, of course, before the present emergency.

Mr. DAVIS. Is it the kind of project that you would consider able to stand on its own feet if the question were the initiating of it at this time?

General CHORPENING. Yes, sir. Again keeping in mind my answer to the previous question.

Mr. DAVIS. Your answer is then that the construction and completion of this project will open up a considerable potential of increased shipping without regard to other antiquated locks and dams in the same waterway system?

General CHORPENING. It will encourage more shipping and the shipping that traverses the waterway can do it much more rapidly and much more economically.

Mr. FORD. General, there has been no change in the cost ratio this year?

General CHORPENING. No, sir. There has been no change in the cost.

Mr. FORD. In the testimony last year it was brought out that 1949 shipments amounted to 2,200,000 tons of which about 14 percent was iron and steel. Do you have the figures for a later year?

General CHORPENING. I will furnish that for the record. The figures for 1950 and those are the latest available. The high lights of the commodities, breakdown show that 16 percent of 1950 traffic was iron and steel.

(The following was submitted later:)

Principal commodities past Demopolis lock on the Warrior system during the calendar year 1950

Commodity:	Tons
Sugar	12,641
Bituminous coal and lignite	42,557
Petroleum, crude	150,745
Petroleum products	194,178
Sulfur	29,148
Iron ore and concentrates	222,278
Iron and steel products including scrap	315,102
Manganese	24,639
All other	48,764
Total	1,140,052

Mr. FORD. According to the testimony last year it was estimated that 31 percent eventually would be iron and steel. Any revision of that figure?

General CHORPENING. Not to my knowledge.

SIZE OF TOWS

Mr. FORD. In the tows that are brought up that waterway, are they all of a sizable nature that required this type of lock and dam?

General CHORPENING. No; not all. But we know that the trend has been toward the larger tows. Shipping interests will use tows that take maximum advantage of the facilities available.

Mr. FORD. Are the larger tows those that handle iron and steel?

General CHORPENING. Yes. And I think some of the other products likewise. I would like to see if Colonel Milne has anything on that.

Colonel MILNE. The tows consist of several barges, today. The older tows consisted of one or two barges.

Mr. FORD. Am I correct in saying that the larger tows are pretty much predicated on the additional movements of iron and steel?

Colonel MILNE. Yes, sir; and all the other products, too. It is economical to run the larger tows so I would not want to say it was just because of iron and steel. It is all the products that are carried.

ACQUISITION OF LAND

Mr. FORD. Has all the land acquisition been taken care of?

General CHORPENING. No, sir. After fiscal year 1953, there will still be $719,000 needed to complete the land-acquisition program.

Mr. FORD. These funds will come in the years subsequent to fiscal 1953?

General CHORPENING. Yes sir.

PURCHASE OF LAND

Mr. FORD. In the testimony last year it was said that for the Demopolis project 20,600 acres of land at an average cost of $33.10 per acre and 74,400 acres of easements or rights-of-way to overflow at an average cost of $7.10 per acre. Has there been any revision of these figures this year?

Mr. SMET. There is no revision in the total acreage to be acquired in either fee or easement.

Mr. FORD. The same number of acres at the same cost per acre?

Mr. SMET. The cost per acre I do not have available except that we have a breakdown here of the cost of the land and the improvements to be acquired as a result of construction. They are broken down as follows: For land, $1,495,400; for improvements, $4,600; or a total of $1,500,000.

Mr. FORD. Can you break these figures down as was done last year for insertion in the record?

Mr. SMET. That can be done.

(The information referred to appears as follows:)

The average cost per acre at Demopolis lock and dam is:

Land to be purchased in fee	$43.60
Easements	8.00

NOTE.—The average cost figures cited in the fiscal year 1952 hearings were incorrect. The total cost of lands ($1,500,000) and the amount of land to be acquired (20,600 acres in fee and 74,400 acres in easements) were correctly stated.

Mr. FORD. This is a matter of comparison with the figures submitted last year to us if there is any revision.

General CHORPENING. Yes, sir.

RELOCATIONS

Mr. FORD. What is contemplated with the $250,000 for relocations?

General CHORPENING. There are some major bridge replacements on the Southern Railway crossing. Apparently five trestles have to be replaced at an estimated cost of $671,000. There is also a county road to be relocated at an estimated cost of $22,000 and there are some sections of a power line of the Alabama Power Co. which has to be

ESTABLISHMENT OF PRIORITIES

Mr. RABAUT. What priority do you attribute to the work in relation to other projects in the budget?

General CHORPENING. Mr. Rabaut, to establish a priority on a project is almost an impossible thing. I am sure everyone would have a different opinion on many of the projects.

Mr. RABAUT. What is the defense significance of it?

General CHORPENING. If important facilities are disrupted, particularly utilities and gas lines serving large communities, that is going to have its effect on defense. If highways are out of use, and there is one bridge here which is the only one in a stretch of 150 miles, damage to such a bridge would be a serious blow; and then there are gas lines and other facilities subject to damage. If these facilities are damaged it has serious defense implications.

Mr. RABAUT. You told us a few moments ago that the money requested would complete three of these projects and that one project would remain for completion.

General CHORPENING. Yes, sir.

Mr. RABAUT. According to the present estimated amount there would be money required in the future, of about $5,000,000; but what work have you actually performed on these projects up to the present time? What have you done with the old money and how far along are these projects?

General CHORPENING. Actually all the funds that were utilized prior to 1952 had been stretched over several years and there has been some channel work and some revetment work done. The funds appropriated in 1952 were only received in the latter part of October. I think we have let some contracts but probably very little work has been done with those funds.

Mr. RABAUT. Are you going to be able to use the money you have?

General CHORPENING. Yes, sir.

Mr. RABAUT. Are you going to be able to use the money on these projects you have or will this build up into a big unobligated balance as you have in the past?

General CHORPENING. By no means. We have advertised and, I believe, let some contracts. This is truly emergency work.

Mr. RABAUT. Will you supply for the record the completion percentage on these four projects?

General CHORPENING. Yes, sir.

(The information is as follows:)

The status of work at the individual locations is as follows:

Dardanelle Rock to Reeds Ferry: One contract has been awarded with work to start February 15, 1952, and another will be let in March 1952.

White Bluff to Jefferson County Free Bridge: A contract will be awarded in March 1952.

Upstream Morrilton Cut-Off to Downstream Morrilton Cut-Off: A contract will be awarded in February 1952.

Wilsons Rock to Missouri Pacific Railroad Bridge at Fort Smith: Two contracts will be awarded in March 1952.

Mr. KERR. Practically half the cost of this project has been allotted.

General CHORPENING. That is correct, sir.

Mr. KERR. And it has been used?

General CHORPENING. It has been used or is being placed under contract now, Judge.

RIVER TRAFFIC

Mr. DAVIS. Is there any appreciable traffic on this river at the present time?

General CHORPENING. No, sir. The Arkansas River is an authorized navigation project but no locks or dams or other works have been built, except the emergency bank protection, under this authorization.

Mr. DAVIS. For the time being then the full benefits would not be realized?

General CHORPENING. May I change my answer to the last question? I understand that there is a very small amount of traffic on the lower part of the river; about half a million tons.

Mr. DAVIS. Was this Wilson Rock-Missouri Pacific Railroad bridge project at Fort Smith in the lower part of the river which you referred to the place where there is traffic?

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Mr. DAVIS. When this work—totally $12,766,000—has been completed will the Arkansas River then be navigable to an appreciable extent?

General CHORPENING. No, sir.

Mr. DAVIS. In other words, it is a several-hundred-million-dollar project to make the Arkansas a navigable river?

General CHORPENING. Yes, sir. You will note, Mr. Davis, this project is headed "Arkansas River and Tributaries: Emergency Bank Stabilization and Channel Rectification." I would like to say also that when you are dealing with a river of this type and you say what work you will have to do to correct a certain place, you hope you are right and it is your best judgment. But we cannot outguess what a river of a certain type will do, in the way of attacking structures.

EMERGENCY MEASURES

So, what I am trying to say is, that as the years go by there are going to be other emergency locations breaking out on the river, I am certain, and will require additional funds. I say that so there will be no misrepresentation on our part, to you gentlemen. This may clean up all the emergencies; I don't know. Emergencies are things you cannot completely foresee. If not, they would not be emergencies. There may be other places, and I expect there will be, that will break out.

The Arkansas Valley is farmed intensively in many places and there is increasing industrial expansion there. We have here almost exactly the same situation, in lesser degree perhaps, as you have on the Missouri River from St. Louis to Kansas City and Kansas City to Sioux City.

Mr. DAVIS. What is the explanation for the $2 million increase in total estimated cost?

relocated at an estimated cost of $40,000 making the total of $733,000 shown on the justification sheet.

CLEARING PROBLEM

Mr. FORD. Is the reservoir clearing fund requested here the average or abnormally large or small?

General CHORPENING. It is a little difficult to answer that question just that way because the clearing is a function of the conditions existing where we are building the dam or reservoir. In territory where there is considerable timber in the valley it is more extensive. It varies with the projects, the type of timber, the amount of it, and the nature of the project as to what clearing is required.

I might mention that the clearing problem over-all is one to which our office has been giving a great amount of attention in the last several years. It is an expensive item and by extensive study we have succeeded in changing our specifications considerably in order to reduce that item in some jobs.

Mr. FORD. In this particular project the total amount estimated for clearing comes to $1,148,000 which is approximately one-twentieth of the cost of the entire project. Do you get any revenue from that which is acquired from the reservoir?

General CHORPENING. In every instance that possibility is carefully considered and if it is possible to obtain any revenue, we do.

Mr. FORD. How is that revenue shown in the handling by the Corps of Engineers' office?

General CHORPENING. The revenue is reflected in this way, that in advertising for the work, the contractor generally is given the right to the timber that he cuts off but we take that into account in the preparation of our own estimate of the work by estimating the merchantable timber that may be cut and so state in the specifications.

Mr. FORD. What it amounts to, then, is a reduction in the contract price?

Mr. KERR. Do I understand that more than one-third of the cost of this project has already been appropriated and used?

General CHORPENING. It will have been used by the 30th of June this year; yes, sir.

Mr. KERR. In other words, of the estimated cost of $20,843,000 and $7,438,800 has been appropriated and will be used by June 1952 and when this appropriation, you requested, is made by the Congress, it will be available for 1953.

ARKANSAS RIVER AND TRIBUTARIES, ARKANSAS AND OKLAHOMA

Mr. RABAUT. Let us turn to the next project, Arkansas River and tributaries, Arkansas and Oklahoma, emergency bank stabilization and channel rectification. This is a project with an estimated cost of $12,766,700. The allotments to date have been $6,134,700; and the appropriation for 1952 was $4,100,000 for construction and $100,000 for planning.

The additional allocation requested for fiscal 1953 is $2,000,000. Do you want to make a brief statement about this project, General?

General CHORPENING. Yes, sir. First, let me say this, that the funds appropriated in fiscal 1952, $4,100,000, as shown in the justifica-

tion sheets were designated for use at eight different locations on the Arkansas River. The funds that are being requested this year, $2,000,000, will be utilized at four of these eight locations, the other four having been completed with fiscal 1952 money.

Of these four, three of them will be completed with the funds we are requesting here and the fourth, Wilson's Rock, will require additional funds.

Mr. RABAUT. Name the three to be completed.

General CHORPENING. The three are Dardanelle Rock to Reed's Ferry, Ark.; mileage 251 to 251.9.

White Bluff to Jefferson County Free Bridge; mile 118.3 to 117.1. And the Bluff contact upstream Morrilton cut-off to Bluff contact downstream Morrilton cut-off, mileage 215.1 to 209.6.

Mr. RABAUT. Four projects in all.

General CHORPENING. Yes, sir; four in all.

Mr. RABAUT. And three to be completed?

General CHORPENING. Yes, sir.

Mr. RABAUT. And the balance of the money, then, will be for the completion of the other one?

General CHORPENING. Yes, sir.

BENEFICIAL RESULTS

Mr. RABAUT. Who stands to benefit by these works?

General CHORPENING. The Federal Government stands to benefit, in that at certain locations, there are federally constructed levees which, without this protection would be endangered and have to be set back at Federal expense.

Mr. RABAUT. How does it affect the railroad companies and the pipelines?

General CHORPENING. Similarly, railroad lines, private utilities, and bridges are also endangered by the erosive action of the river. Furthermore, there are many thousands of acres of land in this area now protected by levees. In the case of the Wilson Rock to Missouri Pacific Railroad bridge section, the city of Fort Smith is endangered.

Mr. RABAUT. To what extent are local interests participating in these projects?

General CHORPENING. None, sir.

Mr. RABAUT. Do you think they should?

General CHORPENING. They are not required, under the law, to participate, Mr. Rabaut.

Mr. RABAUT. If this project is so important why was it originally excluded from the 1952 budget, and then added as a supplemental item, after the bill had passed the House?

General CHORPENING. In the preparation of our 1952 budget we gave very great consideration to this problem and recommendations were made at that time. Later, after the Kansas-Arkansas floods of last summer, the Bureau of the Budget sent a supplemental request to the Congress on this.

Mr. RABAUT. Is this the project that Senator McClellan was interested in last year?

General CHORPENING. Yes, sir.

ESTABLISHMENT OF PRIORITIES

Mr. RABAUT. What priority do you attribute to the work in relation to other projects in the budget?

General CHORPENING. Mr. Rabaut, to establish a priority on a project is almost an impossible thing. I am sure everyone would have a different opinion on many of the projects.

Mr. RABAUT. What is the defense significance of it?

General CHORPENING. If important facilities are disrupted, particularly utilities and gas lines serving large communities, that is going to have its effect on defense. If highways are out of use, and there is one bridge here which is the only one in a stretch of 150 miles, damage to such a bridge would be a serious blow; and then there are gas lines and other facilities subject to damage. If these facilities are damaged it has serious defense implications.

Mr. RABAUT. You told us a few moments ago that the money requested would complete three of these projects and that one project would remain for completion.

General CHORPENING. Yes, sir.

Mr. RABAUT. According to the present estimated amount there would be money required in the future, of about $5,000,000; but what work have you actually performed on these projects up to the present time? What have you done with the old money and how far along are these projects?

General CHORPENING. Actually all the funds that were utilized prior to 1952 had been stretched over several years and there has been some channel work and some revetment work done. The funds appropriated in 1952 were only received in the latter part of October. I think we have let some contracts but probably very little work has been done with those funds.

Mr. RABAUT. Are you going to be able to use the money you have?

General CHORPENING. Yes, sir.

Mr. RABAUT. Are you going to be able to use the money on these projects you have or will this build up into a big unobligated balance as you have in the past?

General CHORPENING. By no means. We have advertised and, I believe, let some contracts. This is truly emergency work.

Mr. RABAUT. Will you supply for the record the completion percentage on these four projects?

General CHORPENING. Yes, sir.

(The information is as follows:)

The status of work at the individual locations is as follows:

Dardanelle Rock to Reeds Ferry: One contract has been awarded with work to start February 15, 1952, and another will be let in March 1952.

White Bluff to Jefferson County Free Bridge: A contract will be awarded in March 1952.

Upstream Morrilton Cut-Off to Downstream Morrilton Cut-Off: A contract will be awarded in February 1952.

Wilsons Rock to Missouri Pacific Railroad Bridge at Fort Smith: Two contracts will be awarded in March 1952.

Mr. KERR. Practically half the cost of this project has been allotted.

General CHORPENING. That is correct, sir.

Mr. KERR. And it has been used?

General CHORPENING. It has been used or is being placed under contract now, Judge.

RIVER TRAFFIC

Mr. DAVIS. Is there any appreciable traffic on this river at the present time?

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Mr. DAVIS. What is the explanation for the $2 million increase in total estimated cost?

Mr. BOUSQUET. About 2 years ago we started work at several locations as an emergency measure and that work has been completed. Since we were undertaking this work as an emergency, we wanted to pick up the previously completed work of this type and add the new projects that were started last year. So the increased cost is this completed work.

Mr. DAVIS. So, in no sense does it represent a revision of your cost estimates?

Mr. BOUSQUET. No, sir.

Mr. DAVIS. I suppose you cannot call them projects in their own right that you expect to finish this fiscal year and that stand independently of the Wilson Rock-Missouri Pacific Railroad bridge at Fort Smith. Is that correct?

RAILROAD BRIDGE AT FORT SMITH, ARK.

Mr. BOUSQUET. Yes, sir.

Mr. DAVIS. The full benefit would be received by proceeding to complete them whether or not the Wilson Rock to Fort Smith was completed at the rate you contemplated in this estimate?

General CHORPENING. Yes, sir. I would like to add though that the Wilson Rock-Missouri Pacific Railway bridge at Fort Smith is probably the most potentially serious situation of any. I was district engineer down there for 3 years and I have many times seen and worried about that situation. The river has been progressively eroding and has cut the Kansas City Southern Railroad tracks. The State of Oklahoma has had to relocate its highway in the vicinity of Braden's Bend. The Poteau River channel parallels the Arkansas River at that point. The Arkansas River is now eroding the bank to a point where it is liable to break through into the Poteau River and thereby create a great flood and cause destruction of property in Fort Smith. Have you a map?

(Discussion off the record.)

Mr. DAVIS. How close in mileage is the present channel to the Poteau?

General CHORPENING. A half mile approximately.

STABILIZATION OF THE CHANNEL

Mr. DAVIS. According to this, at one time, however, the channel of the Arkansas was even closer to the Poteau than it is at the present time.

General CHORPENING. That line is where the river is at the present time.

Mr. DAVIS. You are trying to hold it to the left of where you have marks on this map.

Mr. SMET. There is a cut-off starting about mile 372.5.

Mr. DAVIS. Where is the money applied for 1953?

Colonel PAULES. The red shading shows where the funds will be expended in 1953. The green is what we are going to spend this year. We will put in pile revetments here and then start in this section of the stream this year.

YEARLY COMPARISON OF RIVER TRAFFIC

Mr. FORD. Would you insert in the record a table showing the traffic on the Arkansas River at the present time and that for the last 5 years?

General CHORPENING. Yes, sir.

Mr. FORD. And the type of traffic that is on the river.

General CHORPENING. Yes, sir.

(The information referred to is as follows:)

ARKANSAS RIVER, ARK. AND OKLA.

Section included.—Mouth to Fort Smith, Ark., 373 miles.

Controlling depth.—Mouth to Fort Smith, Ark., 373 miles, 3 feet or more for 4 months and less than 3 feet for 8 months.

Project depth.—None.

Navigation season.—Entire year.

Comparative statement of traffic

Year	Vessel traffic	Rafted	Total	Year	Vessel traffic	Rafted	Total
1940	251,466	4,163	255,629	1946	458,420	580	459,000
1941	302,466	7,744	310,210	1947	487,702	2,666	490,368
1942	615,278	5,743	621,021	1948	504,071		504,071
1943	222,084	537	222,621	1949	562,604		562,604
1944	209,249	10,832	220,801	1950	627,083		627,083
1945	230,312	5,882	230,812				

Freight traffic, 1949

DOMESTIC

[Short tons]

	Commodity	Total	Out-bound	Local
	Total	562,604	11,416	551,188
	ANIMAL AND ANIMAL PRODUCTS, EDIBLE			
040	Fish, fresh or frozen, except shellfish	150		150
	WOOD AND PAPER			
400	Logs	13,453	11,203	2,250
405	Posts, poles, and piling	2,073		2,073
410	Sawmill products (lumber)	280		280
	NONMETALLIC MINERALS			
526	Building, monumental, and stone manufacturers, not elsewhere classified	21,145		21,145
554	Sand, gravel, and crushed rock, except limestone	476,119		476,119
555	Nonmetallic minerals, not elsewhere classified	46,530		46,530
	MISCELLANEOUS COMMODITIES			
970	Materials used in waterway improvements (Government materials)	2,854	213	2,641

1949: Total ton-miles, 2,993,314.
1950: Total ton-miles, 4,681,000.

BENEFIT-COST RATIO

Mr. FORD. According to the figures in the justification there is a benefit to cost ratio of 1.05 to 1. Is that justification or is that benefit to cost ratio based on river traffic or is it based on benefits to agriculture and related matter?

General CHORPENING. That benefit to cost ratio is on the entire comprehensive plan for the Arkansas development which included navigation, flood control, and power and all the features that went into the computation of benefits.

Mr. FORD. The total cost of the entire project is estimated at what?

General CHORPENING. $798,253,000. That includes a considerable number of dams, many locks and dams on the Arkansas and Verdigris Rivers and the bank-stabilization program. That was authorized, as I recall, in 1946.

Mr. FORD. What is the prediction in benefits in your benefit to cost ratio?

General CHORPENING. The most recent valuation of the benefits and savings in transportation charges is $40,470,000; power, $13,155,000; flood control, $4,077,000; general bank stabilization, $4,327,000; revenue from land rentals, $264,000—for a grand total of $62,993,000. That is for the entire project.

Mr. FORD. As I recall the previous statement, it was to the effect that the whole project would cost an estimated $800,000,000.

General CHORPENING. Yes sir.

Mr. FORD. Didn't you just give us a figure of $62,000,000?

General CHORPENING. That is the total estimated annual benefits. The other figure was the total estimated cost at this time.

Mr. FORD. This emergency bank stabilization can be allocated benefit-wise to what part of the valueation?

General CHORPENING. It would have benefits under general bank stabilization. It would have benefits eventually in the savings in transportation charges because certainly if we can stabilize some portion of the channel now it will be helpful at such time as we go ahead with the navigation project but this emergency work is not contemplated with that thought in view, but just to take care of these emergency situations.

Mr. FORD. Well, is the situation really similar to that which exists up in the Missouri River? As you recall, you made a statement a few moments ago that it was similar. In the Missouri River there is considerable traffic in the area you mention. Here there is virtually no traffic.

General CHORPENING. It is similar in the fact that you have the same kind of a river and similar in that you are protecting, from erosion, many thousands of acres of land. It is not similar from the standpoint that a navigation project has gone to the point where there is, in fact, any appreciable amount of navigation traversing the stream. I was thinking of the nature of the river and the agricultural benefits that accrue.

BENEFITS DERIVED

Mr. FORD. Then really the benefits to be derived from this work are for the benefit of agriculture?

General CHORPENING. Agriculture, the protection of bridges, the protection of utilities, the protection of levees in some places that would be endangered and would have to be set back and the flood protection of a city here in the case of one project I just described.

INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI

Mr. RABAUT. The next project is the Intracoastal Waterway, Jacksonville to Miami. The total estimated Federal cost of this project is $25,774,400. Allotments to date are $10,281,100 and appropriated in 1952, $2,200,000. The percentage of completion on this project as of 1952 is 40 percent and the money requested for 1953 will bring it up to 48 percent.

Will you justify this request?

WIDENING AND DEEPENING OF PRESENT CANAL

General CHORPENING. This project calls for the widening and deepening of the Intracoastal Waterway all the way to Miami. At this time we are only proposing to extend the waterway to Cocoa, Fla., and it is being asked for and being done as a defense measure at the request of the Air Force which has a guided missile base at Cape Canaveral, Fla. The funds we are asking for this year will complete the work of deepening and widening the channel to Cocoa, Fla.

Mr. RABAUT. Is it connected with the defense effort?

General CHORPENING. Yes, sir.

ADDITIONAL COST FOR COMPLETION

Mr. DAVIS. Last year, General, we were given a detailed, over-all estimate of a little over $24,000,000. This year it is $25,774,400. What is your explanation of the increase?

General CHORPENING. There is a considerable amount of uncompleted work here. That increase in estimate is due entirely to the cost index, the increased cost of construction. On a project such as this, where there is considerable doubt as to when we might proceed with the remainder of the work, we feel that the fairest method of showing estimates is to apply the cost index to it.

Mr. DAVIS. Does that same explanation apply to the request for $2,200,000 this year when last year's justifications contemplated only $2,000,000 for 1953?

General CHORPENING. I would say that that is accounted for by increased costs and probably—and I would like to have this checked—by bids that may have been received last year.

PERCENTAGE COMPLETED

Mr. DAVIS. Last year we were told that this project was 34 percent complete and this year we are told it is 32 percent complete.

General CHORPENING. It will be 32 percent through 1951 and 40 percent through fiscal 1952.

Mr. DAVIS. We were told by Colonel Potter last year that this project was 34-percent complete and he expected it to be 43-percent complete when the money in fiscal 1952 request was appropriated.

General CHORPENING. I think the answer to that is that you are increasing the over-all estimate so that the amount of dollars spent through 1951 was fixed. If you increase the estimate then as an arithmetical proposition the percentage of completion drops.

Mr. DAVIS. That would explain it if no work were done from April 4, 1951, to the time this justification was prepared.

General CHORPENING. These percentages of completion, Mr. Davis, are based on a straight proportion of the funds, so the amount of work done is the same. Since the estimate has increased and the amount of funds we have expended has remained the same, the percentage completed drops. In this case it works out at 2 percent.

Mr. DAVIS. That would be true if there were no work done in the meantime. But hasn't there been something done between the time Colonel Potter testified and the time of this justification?

General CHORPENING. We show in 1952, 40 percent will have been completed with the funds allotted in 1952 of $2,150,000—40 percent will have been completed.

Last year, I believe, I know it was stated that 43 percent would have been completed but again, since the percentage is of the whole estimated cost and it has increased, that percent must have dropped.

Mr. DAVIS. To 40 percent.

(Discussion off the record).

General CHORPENING. In our justification sheet the work on the 12 by 125-foot enlargement is 6 percent completed and that is actual. There is no relationship to money there. That was completed as of January 1952.

CANAL TONNAGE

Mr. DAVIS. Please furnish the shipping statistics for the last 5 years from Jacksonville to Cocoa, Fla.

Colonel MILNE. Yes, sir.

(The information requested appears as follows:)

INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI, FLA.

Section included.—St. Johns River to Bakers Haulover (northerly port limit of Miami Harbor, Fla.), 340.3 miles.

Controlling depth.—7 feet is available if shoal areas are avoided.

Project depth.—12 feet from Jacksonville to Miami, 372 miles, including 23 miles of St. Johns River within the port limits of Jacksonville, and 8.7 of Biscayne Bay within limits of the port of Miami; and side channels or basins (not yet dredged) near Jacksonville Beach, at Sebastian, and at Vero Beach.

Navigation season.—Entire year.

Comparative statement of traffic

	Tons		Tons
1940	453, 558	1946	301, 177
1941	442, 304	1947	403, 021
1942	457, 023	1948	436, 244
1943	414, 700	1949	235, 070
1944	365, 438	1950	207, 029
1945	455, 721		

Mr. DAVIS. In the hearing last year Colonel Potter testified:

The prospective commerce under normal conditions was estimated in the project document at 1,800,000 tons. Under war conditions the commerce was estimated at in excess of 3,000,000 tons.

General CHORPENING. I think that is after the completion of the entire waterway. If you get 12 feet all the way through to Miami.

Mr. DAVIS. At the present time with an 8-foot depth and 100-foot width you have 400,000 tons?

General CHORPENING. Correct.

Mr. DAVIS. The mere deepening of the channel from 8 feet to 12 feet and widening from 100 to 125 feet would increase the tonnage that amount?

General CHORPENING. It is expected and the projection is made in the survey report, apparently, under normal conditions and that is as Colonel Potter estimated. The prospective commerce under normal conditions was estimated at 1,800,000 tons for the entire waterway when completed from Jacksonville to Miami. The waterway above Jacksonville is 12 feet now.

Mr. DAVIS. Naturally, this project in which this request for appropriation is involved is an improvement in the transportation facilities from Jacksonville to Cocoa—to the Air Force missile base?

General CHORPENING. Yes, sir.

BENEFIT-COST RATIO

Mr. FORD. According to the justifications the benefit-to-cost ratio is 6.3. That is one of the most favorable cost ratios I have seen.

General CHORPENING. That is figured on wartime commerce that might traverse this waterway. And since we are building this as a defense measure, that is the way the benefit-to-cost ratio was figured on this project. It is not true that that is the benefit-to-cost ratio for this project as a normal peacetime proposition.

Mr. FORD. That 6.3 cost ratio would be based on a 3,000,000 tons' use of the channel rather than the 1,800,000 tons?

General CHORPENING. That is correct.

Mr. FORD. In other words, the benefit-to-cost ratio would be considerably less.

General CHORPENING. Very much.

Mr. FORD. On a peacetime basis?

General CHORPENING. Yes, sir.

Mr. FORD. Just to clarify my own picture of this situation, do you have a chart of this whole project? Do you have something I could look at? I would like to ask several questions.

General CHORPENING. Yes, sir.

WIDENING AND DEEPENING OF PRESENT CHANNEL

Mr. FORD. According to the justification, $7,252,400 has been spent deepening the channel to an 8-foot depth and 100-foot width. That is the total stretch from Miami to Jacksonville.

General CHORPENING. That is correct.

Mr. FORD. Now, we are going to spend the difference between $7,252,400 and $25,774,400 on the expansion from 8 feet in depth to 12 feet and from 100 feet in width to 125 feet?

General CHORPENING. Yes, sir; the 8-foot project was completed many years ago.

Mr. FORD. And so far we have only spent $2,150,000.

General CHORPENING. To the end of 1952.

Mr. FORD. For the expansion?

General CHORPENING. Yes, sir.

Mr. FORD. Now, where on this chart is the point where you have gone so far with the wider and deeper channel?

Mr. SMET. Through New Smyrna, sir.

Mr. FORD. The money you have so far takes you down to New Smyrna?

Mr. SMET. Yes, sir.

Mr. FORD. And the money for the next year takes you down to where the Air Force has an installation? Does most of your material for the Air Force come from the north to the south?

General CHORPENING. Yes, sir.

Mr. FORD. Very little of the material for the Air Force will come from Miami north. The money next year will be for the use of the portion from Cocoa to Miami?

Mr. SMET. If the program is continued.

Mr. FORD. The urgency of this project is only from Jacksonville to Cocoa.

General CHORPENING. That is correct.

Mr. FORD. There was no certification beyond Cocoa.

General CHORPENING. No, sir.

Mr. SMET. We only requested certification to Cocoa.

DEPTH OF BARGE CANAL, CANAVERAL HARBOR

Mr. FORD. Last year it was brought out that you wanted a 12-foot depth to Cocoa and you only had an 8-foot depth at Canaveral Harbor. Has there been any effort made to try and get a deepening of the Canaveral Harbor?

General CHORPENING. Well, as I recall it, last year there was a request made for some work at Canaveral. It was in the budget, but it was not allowed by the House. There were certain conditions of local cooperation which we learned after testifying here, would not be complied with, so we did not ask for restoration of the funds.

Mr. FORD. And the needs for Canaveral were not included last year nor in this current budget?

General CHORPENING. That is correct.

Mr. FORD. You are not asking for funds for Canaveral Harbor this year?

General CHORPENING. That is correct.

CANAL TONNAGE

Mr. FORD. I was noticing the following in the commercial statistics, Jacksonville, Fla., district. The tonnage as to the Intracoastal Waterway, Jacksonville to Miami, 1942 to 1949, that in 1949 there were only 235,070 tons; and the prior years were considerably more. Is that a general trend showing the possible usage of that waterway in peacetime?

General CHORPENING. I was not conversant with the fact that the tonnage has dropped off on it but I would have thought that the deeper channel there would probably have an increase in traffic.

Mr. FORD. That is quite a different tonnage figure from 1,800,000 tons annually in peacetime.

General CHORPENING. 1,800,000 tons was an anticipated tonnage when we had a 125-foot width and 12-foot depth for the entire waterway. We now have 100-foot width and 8-foot depth.

(Discussion off the record.)

JIM WOODRUFF LOCK AND DAM, FLORIDA

Mr. KERR. Will you give us a general statement concerning the Jim Woodruff lock and dam in Florida?

General CHORPENING. The Jim Woodruff lock and dam, estimated cost $46,213,000. We have had allotments to date of $21,249,000 and we are requesting allocations for 1953 of $11,330,300.

DESCRIPTION OF WORK TO BE DONE

This dam is part of the Chattahoochee system for navigation, power, and flood control. The major portion of the funds we are requesting for 1953 will go into the spillway, powerhouse structure and reservoir clearing. The project will be 46 percent complete at the end of 1952 and if these funds requested are allowed, the project would be 70-percent complete at the end of fiscal year 1953. Closure of the dam has been scheduled for October 1953 and it is essential that the construction of the other parts of the project be prosecuted as planned in order that the schedule date for the first power unit needed in July of 1954, may be attained.

REASON FOR INCREASED COSTS

Mr. DAVIS. Is the increase in your cost estimate merely a methodical index change or does that represent a change in plans in any way?

General CHORPENING. It does not represent a change in plans. But it represents experience we have had in the past year in the bids received, at this job. That is a realistic estimate based on what costs are at this time. There has been no index applied to that as far as I know. Some of our estimates, I will tell you, are based pretty much on the index; some are based on experience. The index, as you know, is a nationwide thing and there are fluctuations in various parts of the country.

Mr. DAVIS. Has there been any continuation of the study with respect to navigation benefits or would you report the same to us this morning as Colonel Potter reported a year ago?

General CHORPENING. I would report the same to you today as he reported last year.

BENEFIT-COST RATIO

Mr. DAVIS. You have given us an over-all benefit-cost ratio for the system of the four dams of 1.12 to 1.00. Can you give us anything separate for Jim Woodruff alone?

General CHORPENING. I do not think we can, since the four dams are integrated. The benefits are interrelated and to try to parcel them out would not be realistic. As far as the navigation is concerned, on the Chattahoochee, unless the other dams are placed in operation, you would get very little benefit out of the Jim Woodruff Dam.

May I at this time call to your attention in the justification sheet at page 73, line 3, of the status, "Manufacture of the turbines was 44-percent complete" instead of "70 percent." I would like to go back to a question a little while ago, "Have we done anything on the revaluation of the benefits." I said, "No." I was in error. I do have a later estimate from the field. This is for the entire authorized project.

Flood control, $163,000; navigation, $1,490,000; power, $7,034,000; enhanced land, $50,000; total, $8,737,000.

ACQUISITION OF LAND

Mr. DAVIS. There is a very small item for land acquisition listed but there was a very large item on that last year. How has your experience on land acquisition compared with your anticipation of a year ago?

General CHORPENING. From the information I have here, Mr. Davis, I would have to give you an off-hand answer and I would rather analyze the figures I have and supply that for the record.

Mr. DAVIS. I wish you would do that. As I understand it, practically all of the land remaining to be purchased here is owned by one owner. Is that your recollection?

General CHORPENING. I did not know that, sir. It may be true.

(Discussion off the record.)

(The information requested appears on p. 72.)

FRIDAY, JANUARY 18, 1952.

SELF-SUFFICIENCY OF THE DAM

Mr. RABAUT. Is the Jim Woodruff lock and dam economically self-sufficient?

General CHORPENING. Jim Woodruff Dam is part of the comprehensive plan on the Chattahoochee River, and it requires all four dams to make it fully effective. The answer is that the Jim Woodruff Dam by itself is not economically justified because there will be only partial benefits from the navigation features and only direct navigation up to that point. It takes the remainder of the dams to get the maximum benefits.

Mr. RABAUT. It is part of the comprehensive plan?

General CHORPENING. Yes, sir.

Mr. KERR. It involves three States, does it not?

General CHORPENING. It involves Georgia primarily, and, of course, Florida and Alabama.

Mr. RABAUT. How will the completion of the Jim Woodruff Dam alone further navigation?

General CHORPENING. When Jim Woodruff is completed with the lock in it it will permit navigation through the lock and up the Flint River as far as Bainbridge, and then some short distance up the river as far as the next dam, which is the upper Columbia.

TONNAGE

Mr. RABAUT. What tonnage would it contribute if that much of it was done?

General CHORPENING. We can supply that for the record.

Mr. RABAUT. Yes; supply it for the record.

(The matter referred to is as follows:)

The project traffic through the Jim Woodruff Dam alone, when the project is completed, is estimated at 33,100 tons.

PLANS FOR REMAINING PROJECTS

Mr. RABAUT. What are your plans for the remaining projects on this waterway?

General CHORPENING. The Buford Dam is now under construction. For the upper Columbia which is the next lock and dam above Jim Woodruff we are asking for planning funds in this budget.

I may also say we have had some planning money on the upper Columbia, and the President has certified the project for additional planning funds. I think that the certification date was January 5, 1952.

LAND ACQUISITION

Mr. RABAUT. How much land are you taking and what is the average cost per acre?

General CHORPENING. A total of 67,100 acres of land will be required for the project. The total cost is estimated at $1,910,000. Now, we will divide that out and enter into the record the cost per acre?

(The matter referred appears on p. 72.)

Mr. RABAUT. What is the average cost?

General CHORPENING. $28.40 an acre including improvements.

Mr. RABAUT. Your average cost up to date has been $26.38.

General CHORPENING. Yes, sir.

Mr. RABAUT. This cost is a little over that.

General CHORPENING. Yes.

INTERNATIONAL PAPER CO.

Mr. RABAUT. What arrangements have been made with the International Paper Co. which has large holdings in this area?

General CHORPENING. I cannot answer that, sir; I do not know. I will have to supply that for the record. To what kind of arrangements do you refer?

Mr. RABAUT. I understand that you will require 10,000 to 15,000 acres from them. Are negotiations going on now?

General CHORPENING. I imagine they are.

(Discussion off the record.)

Mr. RABAUT. Supply for the record a statement on the negotiations, indicating what price arrangements have been made, and show how far negotiations have proceeded.

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

JIM WOODRUFF LOCK AND DAM

The negotiations for land acquisition with the International Paper Co. (largest single owner) is practically complete with the exception of the need for the construction of a small dam on one of the tributaries, which the International Paper Co. proposes to build for recreational purposes. Engineering studies are underway to determine the location and height of the dam. The allocation for lands in the fiscal year 1952 and 1953 are as follows:

	Estimated total cost	Through 1950	Fiscal year—		After fiscal year 1952
			1951	1952	
1952: Land	$1,947,000	$450,000	$250,000	$500,000	$747,000
		1951	*1952*	*1953*	*1953*
1953: Land	1,910,000	700,000	500,000	10,000	700,000

There has been a slight decrease in the estimated cost of land for this project, based on the actual cost of lands acquired to date. Negotiations with the International Paper Co. had not progressed as rapidly as contemplated and a lesser amount of funds was determined to be required for fiscal year 1953.

The average cost per acre of land (including improvements and mineral rights) required for the Jim Woodruff project is $28.40.

CLEARING

Mr. RABAUT. I understand that the clearing involved here is of a costly nature. What is your estimated cost for this work?

General CHORPENING. The estimated cost of clearing is $5,502,000.

Mr. RABAUT. $5,502,000?

General CHORPENING. Yes, sir.

Mr. RABAUT. That involves clearing how much land?

General CHORPENING. That estimate is based on clearing 36,000 acres of land, of which 32,000 is very heavy clearing in swamp areas with only 4,000 acres classified as light clearing.

SALE OF TIMBER

Mr. RABAUT. Do you sell any of the timber cut from the land?

General CHORPENING. Yes, sir.

Mr. RABAUT. Is that job done by the lumber companies?

General CHORPENING. No, sir; that is generally taken care of in our specifications if merchantable timber is there. The specifications provide that the timber will become the property of the contractor, and that is taken into account in our estimates that we prepare in connection with the bids and in the bids of the contractors.

Mr. RABAUT. The contractor, in other words, deducts the estimated value of the useable timber from the accepted bid?

General CHORPENING. Yes, sir; and we have it cruised by expert timber cruisers so that we have a good knowledge of what is there.

Mr. RABAUT. I understand that a clearing contract is to be let in January. When this is done the committee would like to know the corps' estimate on the contract and the actual bid accepted.

General CHORPENING. Yes, sir.

PRIVATE UTILITIES

Mr. RABAUT. Are the private utilities in this area increasing their facilities in order to utilize Jim Woodruff power?

General CHORPENING. Yes, sir.

Mr. RABAUT. To what extent?

Colonel PAULES. There is a private steam plant under construction near Jim Woodruff Dam. It is being built to serve the increasing power needs of this area, just as Jim Woodruff will do.

Mr. RABAUT. Have you any idea what the size or capacity of this plant is?

Colonel PAULES. I will supply that for the record.

(The matter referred to is as follows:)

The capacity of the Gulf Power Corp. steam plant, now under construction, is as follows:

Initial, 40,000 kilowatts, October 1952; 40,000 kilowatts, October 1953.

Ultimate, 160,000 to 200,000 kilowatts.

Mr. RABAUT. So, as far as you know they are increasing their facilities in order to utilize the Jim Woodruff power, is that correct?

Colonel PAULES. That is right, sir. It serves the same area, and Jim Woodruff power will supplement the steam generation.

FOUNDATIONS AT JIM WOODRUFF DAM

Mr. RABAUT. File for the record a statement with reference to the nature of the foundations encountered in Jim Woodruff Dam and the additional cost they entailed.

General CHORPENING. I can make a statement on it now, which may have to be elaborated on later.

Mr. RABAUT. You can tell us about it and then elaborate on it with a statement in the record.

General CHORPENING. In the contract which is under way in connection with the lock and spillway we did encounter some serious foundation conditions. We knew that the bed rock there was not to good, but we did not anticipate that we would have to do as much of what we call dental excavation as we did. Dental excavations are little pockets that have to be dug out in order to get into solid material on which to base the concrete structure.

We did have additional costs in that contract in the neighborhood of three-quarters of a million dollars. I was down there and saw it, and I know exactly what they encountered. Now, that experience accounts for the increase in the estimate, because with that experience we must include that as a part of the cost of the next contract coming along. I am happy to tell this committee that we opened the bid a few days ago on the last big contract on the job and the bid we got was not as great an increase as we had anticipated. I am hopeful we do not run into trouble there when we get down again, and it is possible that this increase in estimate will not be as large as we have shown, but we wanted to be on the safe side.

(The information requested was not supplied at the time of printing and may be found in the appendix at the end of the printed hearing, part 1.)

(Discussion off the record.)

Mr. KERR. Do you ever strike any places by test boring where you cannot reach bed rock, making it impractical to build a concrete dam?

General CHORPENING. I believe if we have to, that we can build a dam almost any place, but there are locations where it is so difficult and so expensive that we would not try to build a dam there. We would hunt a place where the geology is such that it does make it economically feasible and engineeringly feasible to build a structure.

(Discussion off the record.)

BENEFITS DERIVED

Mr. FORD. General Chorpening, could you give us a breakdown on the benefits from the Jim Woodruff Dam?

General CHORPENING. I cannot give the benefits of the Jim Woodruff Dam as a unit because it is tied in in the justifications with the other three dams of the systems. I believe that I gave those for the record yesterday, but I will be glad to give the benefits, as we figure them, again.

The flood-control benefits of the system are estimated at $163,000; the navigation benefits at $1,490,000; the power benefits at $7,034,000, and the enhanced land values at $50,000, a total of $8,737,000 on the entire system. You will note that the greatest benefits by far accrue from the power.

Mr. FORD. Those are the only benefits for all four dams?

General CHORPENING. Yes, sir.

Mr. FORD. But you have no breakdown for the individual units of the system?

General CHORPENING. That is correct.

Mr. FORD. And those benefits result in a benefit-to-cost ratio of 1:2?

General CHORPENING. Yes, sir.

Mr. FORD. If there is no construction of Fort Benning and upper Columbia then there will be a substantial decrease in the over-all benefits to be derived?

General CHORPENING. The decreased benefits will be mainly in the navigation benefits. There will be some decrease in power benefits, but the main navigation benefit is not achieved if the upper dams are not constructed.

Mr. FORD. Do you now have under construction power at Jim Woodruff?

General CHORPENING. Yes, sir.

Mr. FORD. Are all four projects multipurpose projects?

General CHORPENING. Fort Benning is not, that is navigation only. The other three—Buford, upper Columbia, and Jim Woodruff—all have power.

COST ESTIMATE ON FORT BENNING

Mr. FORD. What is the present cost estimate on Fort Benning?

General CHORPENING. We will look that up and supply it for the record.

Mr. FORD. Last year it was testified as $11,101,000.

Mr. SMET. It is $11,882,000 at present.

Mr. FORD. How do you account for that increase?

Mr. SMET. That would be the price index increase, because we have had no further studies on that project.

Mr. FORD. That is strictly the increase based on the engineering index?

Mr. SMET. That is correct.

COST OF UPPER COLUMBIA LOCK AND DAM

Mr. FORD. What is the present estimate of the cost of the upper Columbia Lock and Dam?

General CHORPENING. The present estimated cost of upper Columbia is $47,164,000.

Mr. FORD. That compares with $44,384,000 a year ago?

General CHORPENING. That is correct, again on the engineering cost index.

Mr. FORD. Last year Colonel Potter testified that the Jim Woodruff capacity is about eight-tenths of 1 percent of the capacity presently installed in the surrounding States of Georgia, Alabama, and Florida.

Has there been any revision of that figure?

General CHORPENING. I do not know, but I would say in the past year that any revision would be very minor. It would be whatever capacity may have come on the line in private plants in the meantime. If you would like to have us make a restudy of that we can do so and supply it for the record.

Mr. FORD. I think it would be helpful to have it included.

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

The capacity of the Jim Woodruff Dam is about eight-tenths of 1 percent of the total capacity presently installed in the surrounding States of Georgia, Alabama, and Florida.

NAVIGATION RESULTING FROM OVER-ALL PROJECT

Mr. FORD. Could you give us any figure showing the potential navigation resulting from the construction of the over-all project?

General CHORPENING. We can, but I want to supply it for the record.

Mr. FORD. With that information can you include some breakdown on the type of traffic?

General CHORPENING. Yes, sir.

Mr. FORD. Also a comparison of the traffic which now flows on the rivers above?

General CHORPENING. There is very little traffic there now because there is no improved channel at all in the Chattahoochee at this time.

(The data referred to are as follows:)

The prospective commerce expected to use the waterway on completion of the entire comprehensive improvement is 409,800 tons. The principal items of prospective traffic are cotton, salt, petroleum products, iron and steel. The 1950 tonnage amounted to 36,705 tons of gravel, none of which was transported on the Flint River.

BUFORD DAM, GA.

Mr. RABAUT. The next project, is "Buford Dam, Ga." Buford Dam is part of the Apalachicola, Chattahoochee, and Flint Rivers system. The total estimated Federal cost is $41,052,000. The allotments to date have been $3,200,000. The appropriation for 1952 was $900,000, and the tentative allocation for the fiscal year 1953 is $3,000,000.

This project will be 8-percent completed, as of June 30, 1952. The request for fiscal 1953 will raise the percentage to 15 percent.

What is the relationship between Buford and Jim Woodruff as regards power and navigation?

General CHORPENING. Buford is the uppermost dam in the series of four on the Chattahoochee. It will have no navigation lock within it, but it will, however, provide a smooth flow of water down the Chattahoochee which will assist in the navigation and, of course, it will produce 86,000 kilowatts of power.

POWER SUPPLY

Mr. RABAUT. What effect will it have on Jim Woodruff power?

General CHORPENING. By installing power at Buford and thereby having the regulated flow coming out of the Buford Dam down the river it will increase the dependable electric capacity at Jim Woodruff. We can install 4,500 kilowatts more, and increase the average energy 6,000,000 kilowatt-hours.

Mr. RABAUT. Then it will firm the power?

General CHORPENING. Yes; it will help to firm the power at Jim Woodruff.

LAND ACQUISITION

Mr. RABAUT. What steps have you taken to inform the people in the reservoir area regarding the land that will be taken?

General CHORPENING. I do not have personal information on that; I am not certain.

Mr. RABAUT. Will you supply it for the record?

(The matter referred to is as follows:)

The customary procedure of holding public hearings on the Buford Dam project was followed, and the reservoir area outlined for the information of the general public. Final determination of the land tracts involved have not been made.

INADEQUATE MAPS

Mr. RABAUT. I understand the maps of the reservoir area are totally inadequate, and that the corps will have to run their own survey to determine the land to be taken. Are funds included herein for that purpose?

General CHORPENING. I think that statement is correct, that the maps are in poor shape, and I am certain that is included in this estimate.

Mr. RABAUT. Was not the Coast and Geodetic Survey ever requested to map this area?

General CHORPENING. No. There are many sections of the country that the Coast and Geodetic Survey and the United States Geological Survey have not covered with accurate maps; very many of them.

Mr. RABAUT. And this is one of those sections?

General CHORPENING. I think it is, and each year, I might say, Mr. Rabaut, that we work with the USGS in recommending to them priorities for the maps we will need of this country.

Mr. RABAUT. You feel that the funds are included herein for the purpose of making those maps?

General CHORPENING. Yes, sir.

Mr. KERR. What is the distance between Buford Dam and Jim Woodruff Dam?

General CHORPENING. 350 miles.

PRIVATE POWER FACILITIES ON THE CHATTAHOOCHEE RIVER

Mr. RABAUT. What private power facilities now exist on the Chattahoochee River?

General CHORPENING. There are a number of existing dams in the Chattahoochee River now belonging to private power facilities. I can read them, if you like. I have the names here.

Mr. RABAUT. Yes; put them in the record.

General CHORPENING. Morgan Falls, with a capacity of 16,800 kilowatts; Langdale, with a capacity of 4,010 kilowatts; River View, with a capacity of 4,180; Bartlett's Ferry, with a capacity of 65,000, that is assuming the new unit of 20,000 kilowatts which is being installed in that area is in operation now.

Mr. RABAUT. How far advanced is the Bartlett's Ferry project?

General CHORPENING. It was supposed to be on the line about February. Goat Rock, 16,000; North Highlands, 6,900; City Mills, and it is inoperative, 300; and Eagle and Phoenix, 4,100.

Mr. RABAUT. What will be the effect of the Buford project on these dams?

General CHORPENING. The effect of Buford will be that at Bartlett's Ferry it should increase the kilowatt capacity 7,000; at Goat Rock it should increase it 8,000; and at North Highlands, 1,000.

Mr. RABAUT. It will firm the private power facilities then?

General CHORPENING. Yes, sir.

Mr. DAVIS. Last year, General, we were told that about 80 percent of the justification for this project was power. That aspect of it is not very strongly presented in the written justifications here. That is one thing I would like you to comment on. Secondly, last year we had considerable discussion about possible local contribution in view of the primary interest of the city of Atlanta in obtaining a more stable water supply as a result of this construction. Has any further discussion been had, with respect to a contribution by the city of Atlanta, or have you revised your opinions with respect to the proportion of the benefits that you allocate to power?

General CHORPENING. In answer to the first part of your question, I believe my statement of our present estimated annual benefits from the entire system, as I recall it, was something over $7,000,000 annually for power, and about $1,500,000 for navigation as an indication of the relative benefit of power as against navigation in the system, and, of course, that applies to this project. Where we install 86,000 kilowatts of power we will get considerable revenue from that. The navigation benefits are also there, but they are not as great as are the power benefits.

Now, on the second part of your question as to the benefits accruing to the city of Atlanta, we are providing no storage in the reservoir being built just to provide a stable water supply or stable water flow past the city of Atlanta. There is no cost that the Federal Government is putting in that is particularly to provide a more stable flow of water past Atlanta. The water goes by Atlanta now, and it goes by sometimes in a big flood, and sometimes the river gets very low. The operation of the dam will smooth out that flow. I know of no way to require the city of Atlanta to contribute to that, under any present laws, and I do not believe that in our computation of benefits any credit was taken for the benefit that might accrue to the city of Atlanta due to that smoothing out of the flow there.

LAND ACQUISITION

Mr. DAVIS. The land acquisition, apparently, is progressing rather slowly. Is there any particular problem in that respect?

General CHORPENING. No, sir. As of the 30th of June of this year the acquisition of land will be 4 percent completed. We have just started this project and, as a usual thing, our policy, unless there are other compelling conditions, is to only procure real estate in step with the construction. We do not want to dispossess people of their land or spend the Government's money for land until the time that we require it for the project. The entire project at the end of the fiscal year 1952 will be 8 percent complete. Of course, quite a little of that percentage represents engineering design, so 4 percent on real estate is not unrealistic in those circumstances.

Mr. DAVIS. Is your land-cost estimate a comparatively firm figure?

General CHORPENING. That is the best estimate we have at this time. With land, like everything else, it may have some variations up and down, but it is as close to the price that we will have to pay as we can reasonably make it at this time. We do not start dickering with the individual landowners, as a general thing, until we are at the point where we are really going to do some buying, and you can see why we would not do that.

Mr. FORD. According to the justifications, General, the closure date is September 1955, and the first power unit, with a capacity of 40,000 kilowatts, is to be placed on the line in December 1956. Could you give us an estimate of the proposed appropriations between now and the completion of this project?

Mr. BOUSQUET. Colonel Paules can furnish that.

Colonel PAULES. $12,800,000 in 1954; $11,565,000 in 1955; $6,426,000 in 1956; and $4,061,000 in 1957.

Mr. FORD. According to the justifications, the requested amount this year is $3,000,000 even, is that correct?

General CHORPENING. Yes, sir.

AMOUNT REQUESTED OF BUREAU OF THE BUDGET

Mr. FORD. What did the corps request of the budget for this particular project?

General CHORPENING. $8,500,000.

Mr. FORD. $8,500,000?

General CHORPENING. Yes, sir.

Mr. BOUSQUET. I can give you the exact figures, sir, if you wish them. We had $3,000,000 within the ceiling, and $5,523,000 over the ceiling. That would have put power on the line a year earlier.

Mr. FORD. The requested appropriation would have put power on the line 1 year earlier, assuming your other appropriations would have followed in normal course?

Mr. BOUSQUET. Yes, sir; that is correct.

Mr. FORD. Has this project been certified by the President as essential to national defense?

Mr. BOUSQUET. No, sir; certification was not required for this project.

Mr. FORD. It was under construction at the time?

Mr. BOUSQUET. Yes, sir; it was under construction prior to 1951.

Mr. FORD. Did I understand you to say that one of the other projects in the over-all project had been recently so certified?

General CHORPENING. The upper Columbia was certified for planning. Under the requirements of the conference report on the appropriation bill last year the President had to certify any project for which planning funds were to be allocated in fiscal year 1952. That certification of the upper Columbia Dam was made on the 5th of January 1952 by the President.

Mr. FORD. The upper Columbia has how much power?

Colonel PAULES. 65,000 initially, or 130,000 ultimately.

Mr. FORD. It is Fort Benning which has no power?

General CHORPENING. Yes, sir; that is correct.

Mr. FORD. According to the testimony last year Buford is approximately 80 percent power.

General CHORPENING. Buford will have 86,000 kilowatts installed.

Mr. FORD. And approximately 80 percent of the benefit will be for power?

General CHORPENING. For power; yes, sir.

MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS; CHAIN OF ROCKS CANAL

Mr. RABAUT. The next project is the Mississippi River between the Ohio and the Missouri Rivers, Chain of Rocks Canal, Ill.

This is a Federal project with a total estimated Federal cost of $39,825,000. The allotments to date have been $38,528,000. The appropriation for 1952 was $5,000,000, and the tentative request for the fiscal year 1953 is $1,297,000.

The project will be 97 percent completed as of the close of fiscal 1952, and the money requested will complete it.

Will you describe your progress during the past year.

General CHORPENING. The progress has been satisfactory on this project. The funds required will complete it and we can place this into operation, which will eliminate what has always been a very serious bottleneck to traffic on the Mississippi River. The money this year will be expended on the completion of the canal and the levees.

Mr. KERR. Then you think the $1,297,000 requested will complete the job?

General CHORPENING. Yes, sir.

Mr. FORD. This is the project we saw from the air on the trip the committee took?

General CHORPENING. Yes, sir.

Mr. FORD. Bypassing the Chain of Rocks?

General CHORPENING. The Rapids of the Chain of Rocks has always been a very difficult reach in the Mississippi River. It is opposite St. Louis, on the left or east bank of the Mississippi River.

Mr. FORD. Has there been any revision in the initial cost estimate on this?

General CHORPENING. The estimate is the same as it was last year.

MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN.

Mr. RABAUT. The next project is one on the Mississippi River between Missouri River and Minneapolis, Minn., excluding St. Anthony Falls and lock 19.

This is a project with a total estimated Federal cost of $174,930,600. The allotments to date have been $156,046,670. The appropriation for 1952 was $357,700, and the amount requested for the fiscal year 1953 is $70,000.

General CHORPENING. In accordance with provisions of the River and Harbor Act of 26 August 1937, annual payments must be made to certain levee and drainage districts to reimburse them for any increased cost of operation and maintenance due to operation of navigation pools until such time as capitalized lump sum payments can be made. It is essential that certain studies be performed and records be maintained in connection with these annual payments, and that other studies be continued with the view of effecting capitalized lump sum settlements and final discharge of the Government's obligation for rectification of damages. Funds in the amount of $70,000 are required for this item during fiscal year 1953.

Mr. KERR. You are asking for only $70,000 this year?

General CHORPENING. Yes, sir.

Mr. DAVIS. Have those claims been liquidated for which this money is requested?

General CHORPENING. No. This is only a payment each year and for the studies we are conducting as the years go by to eventually arrive at and capitalize a sum which may, at some future date, I do not know what date, be recommended to liquidate it forever, and this was provided for in the River and Harbor Act of 1937. I understand that we are hoping to be able by 1955 to come to a conclusion and arrive at a settlement, that will capitalize all the annual damages incurred by these levee and drainage districts.

Mr. DAVIS. And the amount of $70,000 is the fixed annual charge that has been agreed upon, is that correct?

General CHORPENING. No, sir. Our experience over the past number of years to date indicate it runs around that amount. Last year, as I recall it, we asked for the same amount, and that is what it takes each year to pay off claims and continue the studies we must make as we go along so that we are in shape to negotiate on the capitalization of the expenditures.

CLINTON, IOWA, PROJECT

Mr. FORD. Last year the appropriation was $357,700.

General CHORPENING. Last year it was not in the budget as it was presented to you gentlemen, but the Senate put in a project at Clinton, Iowa, for $257,700. That is a one-shot deal, and that is to be paid to them in full liquidation of their claims. It was provided for in the rivers and harbor act which authorized that project. It was actual repayment to them for damages done to their sewers by the navigation structure at that point.

Mr. FORD. As a result of that payment to Clinton, Iowa, will this resolve that problem where they had backwater flooding the town, and where they had a great amount of unsanitary conditions prevailing?

General CHORPENING. That is intended to resolve that problem. Actually in the authorization a fixed sum was established that would be paid to the city of Clinton. The authorization was some years old. In my opinion they will not be able to do the work that money was

originally intended for. It will probably cost the city more, but under the law only that amount could be appropriated, and that sum was appropriated, and it will be turned over to the city to do that work.

Mr. FORD. In other words, Clinton, Iowa, with that money and whatever other money they have to have will take care of the problem that exists in that community?

General CHORPENING. As far as we are concerned under the law that will be the way it is. Could I state this off the record?

Mr. FORD. Yes.

(Discussion off the record.)

Mr. FORD. Getting back on the record, I notice that there is still $18,813,930 yet to be spent by the Federal Government for the completion of this over-all project. Are you intending to liquidate that full amount by 1955?

General CHORPENING. That covers quite a lot of extensions and individual modifications that will be required in the future. I do not know as to when we may be asking for funds to do that. We are only going to do it as we feel that they are actually required by the shipping which is using the waterway, but it is in the over-all authorized project.

Mr. FORD. Will the $70,000 that is requested in this budget go to decrease, small as it is, the $18,000,000 plus?

General CHORPENING. Yes, that does serve to decrease the over-all unappropriated amount of money required to complete the project.

MISSOURI RIVER, KANSAS CITY, MO., TO SIOUX CITY, IOWA

Mr. RABAUT. We will take up the project on the Missouri River, Kansas City, Mo., to Sioux City, Iowa.

This is a project with a total estimated Federal cost of $179,068,000. The allotments to date have been $106,555,900. The appropriation for 1952 was $4,000,000, and the request for the fiscal year 1953 is $5,000,000. This project, as of the close of 1952 will be 59 percent completed, and the money requested for 1953 will bring it up to 62 percent of completion. This is basically a bank stabilization project, is it not?

General CHORPENING. Yes, sir; it is primarily bank stabilization of the Missouri River between Kansas City and Sioux City in connection with the authorized navigation project. The work has been under way on this for many years, over 20, I believe, and at one time prior to the war we had this section well along toward completion and stabilization.

Mr. RABAUT. How much damage was done in this area by the flood?

General CHORPENING. Not very much in this stretch because the Kansas City flood only had an impact on that stretch of the river below Kansas City, on the portion from Kansas City to St. Louis.

This is above, and that part was not in flood this past year.

It is highly essential that this work be done. Not only will it restore the navigation channel but, more pertinent, it will stop the everlasting erosion and whipsawing of the river back and forth, ruining all of that fine land in the Missouri Valley. And until we pin the river down, you cannot do much good by building agricultural

levees alongside the river. It is a similar problem to the one we discussed yesterday on the Arkansas, except here we have had navigation and still do have navigation as far as Omaha, and there is some to Sioux City.

Mr. RABAUT. This project was somewhat neglected for a while; was it not?

General CHORPENING. During the war, nothing, or practically nothing, was done.

Mr. RABAUT. Do you feel the figures of percentage of completion are anywhere near correct?

General CHORPENING. They are reasonably correct. Again going back to our discussion yesterday, Mr. Rabaut, that percentage is based on percent of funds appropriated to the present estimated cost. To try to arrive at the percentage of completion in any other way would be a very difficult thing.

Mr. RABAUT. The benefit to cost ratio here is almost 2 to 1—1.9 to 1. Do you feel that is still good?

General CHORPENING. Yes, sir.

Mr. DAVIS. Will you furnish us with some traffic statistics from Kansas City to Omaha and then from Omaha to Sioux City?

General CHORPENING. The latest statistics?

Mr. DAVIS. Yes.

General CHORPENING. Yes, sir.

Mr. FORD. Would you furnish it for years since World War II?

General CHORPENING. Yes, sir, beginning in 1946.

(The information requested is as follows:)

Missouri River—Kansas City to Sioux City, calendar years 1946–50

[Tons of 2,000 pounds]

Year	Commercial traffic	Government traffic	Total all traffic
1946	57,662	218,545	276,207
1947	168,779	208,504	377,283
1948	278,962	531,545	810,507
1949	240,073	559,632	799,705
1950	181,623	687,591	869,214

NOTE.—Statistical data for the reaches from Omaha to Sioux City and from Omaha to Kansas City are not compiled by the Board of Engineers, for Rivers and Harbors. It is known however that only minor amounts of the traffic shown in the above table used the waterway above Omaha.

Mr. FORD. What did the Corps of Engineers request for this project from the budget?

Mr. SMET. The Corps of Engineers asked for $13,000,000.

General CHORPENING. We asked for $5,000,000 within ceiling and $8,000,000 over ceiling, a total of $13,000,000.

(Discussion off the record.)

Mr. FORD. In the light of the rather comprehensive explanation made last year, I do not think I have any more questions on this project.

LOCK NO. 19, KEOKUK, IOWA

Mr. RABAUT. The next project is lock No. 19, Keokuk, Iowa, a part of the project of the Mississippi River between the Missouri River and Minneapolis, Minn. The total estimated Federal cost is $18,042,000; allotments to date, $377,100. There was no appropriation in 1952, and the request for 1953 is $2,500,000.

This project is only 2 percent complete, and the $2,500,000 requested would bring it up to 16 percent.

General CHORPENING. This is a new start. The funds up to now have been for engineering studies and design only.

The present lock was built in 1913 by a private company and later taken over by the United States when the project was authorized. It is a smaller lock than those in the rest of the system, 358 feet by 110 feet. It is a definite bottleneck in a very busy traffic artery. Furthermore, for some years we have been having great difficulty with the lock due to deterioration of various features of it. Since that date, there have been great advances in concrete construction techniques. This old concrete is simply falling apart. It has been worrying us greatly. This year, during the lay-up season, we have unwatered the lock and are carrying out repairs to it with the hope of putting it in such shape that it will not fall apart on us before we can get the new one built.

RIVER TONNAGE

I think it is rather interesting in connection with the justification here to show the use to which this waterway is placed. In 1939 only 2,411,000 tons traversed the upper Mississippi River waterway, with a little over 1,000,000 tons passing through this lock, whereas in 1950 over 11,000,000 tons used the waterway and over 4,000,000 went through this lock. Now, you can see with a lock here of only 358 feet as against 600 feet standard size, it is a definite traffic bottleneck. But, more than that, I can say it is one of the navigation structures that has us most concerned about the possible failure of it. This is one of the few new starts this year, and we feel on the basis of national defense that it is extremely well justified. Should this present lock fail, the traffic that now moves through it, 4,000,000 tons, would have to move by rail, because we could not use the river without the lock being in there.

Mr. RABAUT. Where will you put the new lock? Adjacent to the old one?

General CHORPENING. We will put it adjacent to it. I have a photograph here that I think would be quite helpful [submitting].

Mr. RABAUT. What is the status of the definite project report?

General CHORPENING. The studies are complete, and the design and engineering for this project is at this time a little over 50 percent complete. We are ready to go ahead with construction.

Mr. RABAUT. Is the DPR complete?

General CHORPENING. Yes, sir; the definite project studies are complete.

Mr. RABAUT. What is the basis for the present cost estimate?

General CHORPENING. The present cost estimate is a recent estimate based on present prices.

Mr. RABAUT. What is the benefit to cost ratio?

General CHORPENING. The benefit to cost ratio for the entire system is 1.4 to 1.

Mr. RABAUT. What commerce uses the lock?

General CHORPENING. Over 4,000,000 tons traversed the lock in 1950; 4,118,000 is the exact figure.

Mr. RABAUT. Specifically, how will savings occur by the construction of a new lock?

General CHORPENING. Specifically, savings will occur in the great reduction of time required by barges traversing the waterway. Furthermore—I do not know just how to express this in savings—if the old lock should fail and traffic could not move at all, the loss would be tremendous.

Mr. RABAUT. What is the maintenance cost of the old lock?

MAINTENANCE OF OLD LOCK

General CHORPENING. The upkeep has been high, and right now we have it unwatered, and we are going to have to spend something in the neighborhood of a quarter of a million dollars out of our maintenance funds this year to put the lock in the best shape we can to carry on until we have new facilities.

Mr. RABAUT. Will you file for the record a statement showing specific savings moneywise?

General CHORPENING. As far as navigation is concerned?

Mr. RABAUT. Yes.

(The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings.)

Mr. RABAUT. What about reconditioning the existing lock? You said it would cost a quarter of a million dollars just to put it in operating shape?

General CHORPENING. Yes, sir.

Mr. RABAUT. But you do not figure that operating condition would be permanent?

General CHORPENING. Not by any means.

Mr. RABAUT. This was built by a private concern, wasn't it?

General CHORPENING. Yes, sir.

Mr. RABAUT. How long ago was it built?

General CHORPENING. In 1913.

Mr. RABAUT. What is the estimated life of the reconditioning that has been, or can be done?

General CHORPENING. We are trying to do a good enough job to last until we can get a new lock in there. But the deterioration has been so great that, frankly, I just do not know whether we are going to be able to keep it operating until we get the new lock.

Mr. RABAUT. Could you not have planned a new lock and adding this deterioration cost it has taken to rehabilitate the old lock and saving that money?

General CHORPENING. I believe 3 years ago we first brought this up and asked for appropriations of the Bureau of the Budget.

Mr. RABAUT. What normally is the cost of a lock such as is proposed here?

General CHORPENING. The estimated cost is $18,042,000. I think it would be interesting to the committee, if you have a minute or two, to hear from Colonel Milne, who has some photographs showing the present condition of that lock. The photographs will give you some notion of what we are talking about in connection with the condition of this very poor concrete.

PRESENT CONDITION OF OLD LOCK

Colonel MILNE. I went out there last summer and inspected the Keokuk Lock, because, as General Chorpening said, we are extremely worried about the condition of it. When we were there we took some core borings. We took those borings 4 feet from the vertical face of the lock. The concrete had deteriorated so badly that we could get nothing but powder; we could not get a complete core boring at all. It was nothing but powder 4 feet from the face of the lock.

We were immediately concerned about the failure of the gate anchors; so we directed the district engineer to unwater that lock at the end of the navigation season this year. We were hopeful that the concrete under water would not have deteriorated as much as the exposed surface. However, after unwatering the lock beginning about the 12th of December, we found the condition under water was just as bad, if not worse, than the condition above water. You can go to any part of that lock with a screw driver and just dig the concrete away.

If you will notice the second picture, it shows the quoin casting. That casting bears the entire weight of the head of water when the lock chamber is closed, and the concrete has actually fallen away from the side of that casting, and right in that spot you can literally take your hands and break the concrete out. If that continues, the quoin casting is going to fail and, of course, the entire gate will fail. This year we hope that quoin casting will last until the next navigation season, and we have concentrated our money on repairing the gate anchors.

As you probably know, the gate hangs from the top by a horizontal rod driven into the concrete wall, and tied to a vertical member. We were fearful that the anchor rod was going to pull out of the rotten concrete, so this year we are concentrating our funds on repairing that anchor rod and putting it 8 feet back into the mass of concrete and driving a new tie rod.

I talked to Colonel Finley only 2 days ago about the general situation. He feels the work we are doing this year, about a quarter of a million dollars' worth, is going to keep that lock open until next summer. I also know at the end of the navigation season next year we will dewater and do more work on the lock to strengthen it, and we are going to have to continue to do that year after year as long as we have this worn-out structure.

Colonel MILNE. We are sandblasting the gate, and it might be interesting to know that the gate is so eroded that there are holes through it.

General CHORPENING. Colonel Finley, who was mentioned by Colonel Milne, is the district engineer at Rock Island.

Mr. DAVIS. Some day undoubtedly this lock is going to have to be built. The major question, is as to whether or not you can struggle along with this one until we have passed the crisis in the shortage of construction materials that we are now facing. I gathered from Colonel Milne's statement and your own that you feel, in spite of that critical situation, we cannot risk trying to go along and maintain this lock.

General CHORPENING. We as engineers can only advise you we think it is a risk that should not be taken. We think we have waited too long as it is. I think it is later than it should be to start on it.

Mr. DAVIS. Would you also say that the percentage is against your being able to keep this lock in operation until the critical materials situation has cleared up?

General CHORPENING. I would say it is a gamble. Again, every year we think if we can keep it operational—and we have to do everything we possibly can—it is spending money which is going down a rat hole—$250,000 this year—and I anticipate we may have to spend as much each year to keep the lock in operation. I hope I am wrong, but I say that based on the condition of the lock at this time.

Mr. DAVIS. That would be bad economy, certainly, if the materials were available, but now we have this other factor of balancing the money against the materials that would have to be used—and they are materials that are being demanded in all phases of the defense effort. In your professional judgment, do you believe we can get along with the existing lock for another 2 or 3 years?

General CHORPENING. If the worst should happen and the lock should fail to the point where it was unusable, then you are faced with the movement of 4,000,000 tons of traffic by other means, which would be the railroads, which would place a greater strain on those facilities and perhaps require even a greater expenditure of materials to secure more cars in the over-all to move it.

COST OF NEW LOCK

Mr. FORD. General Chorpening, would it be possible to introduce in evidence, a chart showing the annual maintenance cost of this project since the Federal Government took it over?

General CHORPENING. I know we have them in recent years, but away back in the early days I cannot be sure that we have them. But we will supply you with all the information we have.

Mr. FORD. I think it would be very helpful to the committee to show as much as possible the annual maintenance cost, and if there is an increase in recent years, it would be very emphatic and show, perhaps, that there is a very definite need for the construction of this lock.

General CHORPENING. Of course, until we went in and made these borings to which Colonel Milne referred, we did not realize how serious deterioration had taken place in the structure. So I do not believe the figures we will give you will show inordinate maintenance coming up until just the last year or so. Of course, we knew it was not only an old lock materially, but it is a much smaller lock and is a bottleneck in the navigation system. Three years ago, before the present emergency, we were looking at it as a bottleneck in the transportation artery, which was growing every year.

Mr. FORD. But since you have drained the lock and seen the conditions that presently exist, the prime consideration is the considerable maintenance cost that will be necessary in the next few years?

General CHORPENING. That is correct; yes, sir.

Mr. FORD. It would seem that the committee should view it now as a matter of economy, because if we are called upon to spend

$250,000 a year for maintenance—and your testimony so indicates—in 5 years we are going to be spending $1,250,000 and still end up with a lock that is not in good repair and one that still is a bottleneck to transportation.

General CHORPENING. That is correct; yes, sir.

Mr. FORD. In your estimation, there is no doubt that each year from now on, as long as this lock is used, there will be the necessary expenditure of approximately $250,000 for maintenance?

General CHORPENING. That is correct. And what I principally fear—and I must be clear about this—is that we may have a complete failure. That is what bothers me.

Mr. FORD. And if there was a complete failure, what steps would you take then to continue the flow of traffic?

General CHORPENING. Whether we could improvise temporary facilities in some fashion at very considerable expense, I do not know. I have been worried somewhat as to what we would do in that case. I know if we should build something under emergency conditions, then you would have to spend considerable funds, and it still does not give you a permanent solution.

Mr. FORD. I notice you have a 5- or 6-year period set up for the completion of the project.

General CHORPENING. What would happen, I think, if this situation becomes worse than we now think it is—and we are hoping we can hold it—is that we would ask for an expedited schedule on it, which would cost more money. It is possible to build it faster, but there would be greater cost.

Mr. FORD. In other words, you could expedite that construction?

General CHORPENING. Yes, sir.

Mr. FORD. And for every year you completed it ahead of schedule, there would be that saving of maintenance of the old lock of $250,000?

General CHORPENING. That we anticipate.

SPEED AT WHICH A NEW LOCK COULD BE BUILT

Mr. FORD. How quickly could you build the lock?

General CHORPENING. My answer to that has to be an educated guess in a way, but I believe if we were given all the materials we needed without regard to the expense to get the job done, we could probably build it in from 2 to 3 years.

Mr. FORD. Why is it necessarily more expensive to construct it more quickly than the schedule you set up here?

General CHORPENING. On every construction job there is an optimum rate of progress you can achieve. After all, if you are going to build a job faster, then you have to pour concrete faster; so you have to have larger concrete-mixing equipment there. You have to have more plant of all kinds. You may have to have a number of contractors working at the same time, and when you get that congestion it costs more money. Furthermore, there would have to be a great amount of overtime compared to what we might have normally. I would say a good statement there is haste makes waste, and it is applicable to construction like everything else.

Mr. FORD. Is the schedule you set up in this justification the optimum building schedule?

General CHORPENING. Yes, sir.

Mr. FORD. Cost-wise?

General CHORPENING. Yes, sir.

Mr. FORD. How much did you ask the Bureau of the Budget for this project?

General CHORPENING. $2,500,000, the same as we were given.

BALTIMORE HARBOR AND CHANNELS, MD.

Mr. RABAUT. The next project is, "Baltimore Harbor and Channels, Md." This is a project with an estimated Federal cost of $10,801,600. Allotments to date are in the amount of $7,601,600. The amount appropriated in 1952 was $800,000, and tentative allocations for the fiscal year 1953 are in the same figure, $800,000. As of the close of 1952, the project will be 70-percent complete, and the request for 1953 would bring the completion percentage to 78 percent.

General CHORPENING. Baltimore Harbor is one of the very largest harbors in the country, and the 39-foot depth to which we are now going there is required for the heavier ships, the bigger ships, that are using this harbor.

The work remaining to be done is the dredging of about 32,000 feet of main channel to a depth of 39 feet from a point in the Brewerton-Fort McHenry angle to the head of the Fort McHenry section and completion of the Ferry Bar and Spring Garden sections.

You will note the $800,000 we are asking for this year is only on the 39-foot channel. This project has a very high cost to benefit ratio and, as you will note, the tonnage that uses Baltimore Harbor is extremely high.

Mr. KERR. How much money was expended in 1952 on this harbor?

General CHORPENING. In 1952 we had an appropriation of $800,000, the same amount as we are asking for this year.

Mr. KERR. Have you used the $800,000?

General CHORPENING. We will have used the $800,000 by the end of the fiscal year; yes, sir.

Mr. DAVIS. Are we correct in assuming that the increased total cost estimate represents a purely mathematical cost of construction increase?

General CHORPENING. That is an increase of the deferred work which we feel should be included at this time because of the over-all increase in cost. I am not sure, but I think we may have had some experience up there on our present dredging which indicates to us that this over-all estimate should go up. I think the increase was $400,000 over last year.

Mr. DAVIS. Has the work that was appropriated for last year gone ahead on schedule, or are you finding it considerably more expensive than you had contemplated?

General CHORPENING. We are planning to do the work this spring for which funds were appropriated this year with a hopper dredge.

BENEFIT-COST RATIO

Mr. FORD. General Chorpening, the benefit to cost ratio is 2.33 to 1. Has there been an increase in that cost to benefit ratio recently?

General CHORPENING. The cost to benefit ratio has been reevaluated in recent years. I do not know offhand what we stated last year, but we have reevaluated it in fairly recent times.

SHIPMENT OF IRON ORE

Mr. FORD. According to the testimony last year, there is great potential and even at the present time some real benefits trafficwise because of the use of this harbor for bringing in iron ore. Is that correct?

General CHORPENING. That is correct.

Mr. FORD. This iron ore comes from where?

General CHORPENING. It comes from Liberia, Chile, and some will probably come from Venezuela.

Mr. FORD. The deepening of this channel is necessary for the adequate handling of these ore boats?

General CHORPENING. Adequate handling of the ore boats and I think perhaps other deep-draft vessels, such as tankers and so forth.

Mr. FORD. Do the ore boats require the deeper draft?

General CHORPENING. They do. And as the deeper draft is provided, there will be more of those larger ones built. It has always been our experience that as deeper drafts are available boats are built to use the deeper draft.

Mr. FORD. The large ore boats that transport this Liberian and Venezuelan ore are deep-draft vessels?

General CHORPENING. Some of them are, and I think as the greater drafts are available they will use almost entirely those deeper-draft vessels.

Mr. FORD. According to Colonel Potter last year, the Venezuelan ore ships had a 35-foot draft. Do you have any figures on the traffic that came from Venezuela this past year?

General CHORPENING. We only have the official statistics up to the end of 1950 at this time.

Mr. FORD. Could you present some statistical data which would show the amount of iron ore which was shipped in to Baltimore Harbor from Venezuela and Liberia and the draft of vessels that handled this ore?

General CHORPENING. I doubt if up to this time much, if any, has come from Venezuela, but I will supply for the record the best information we have at this time.

(The following was submitted later:)

There were no imports of iron ore at Baltimore from Venezuela and Liberia during 1950. Ore vessels from Chile had drafts of 35 and 36 feet, and from Europe 32 feet.

Mr. DAVIS. Is there any other harbor you know of where the Government is attempting to maintain a 39-foot depth?

General CHORPENING. I think the Delaware River. The Delaware project depth is 40 feet going up to Philadelphia, and the new Ambrose Channel going into New York is 45 feet.

ST. ANTHONY FALLS, MINNEAPOLIS, MINN.

Mr. RABAUT. We will take up "St. Anthony Falls, Minneapolis, Minn." The total estimated Federal cost is $21,581,900; allotments to date, $5,109,800. In 1952 there was an appropriation of $1,500,000, and the amount requested for fiscal 1953 is $1,792,700.

Was that the amount you asked of the Budget?

General CHORPENING. Yes, sir.

The St. Anthony Falls project consists of two locks, a lower and an upper lock, to bring navigation farther up the river to provide proper facilities for port development at the city of Minneapolis. We are now constructing only the lower lock and dam, and the funds we are requesting this year will complete the lower lock and dam.

We have a continuing contract there for the entire project, and this will carry out that contract.

Mr. KERR. How many dams will there be?

General CHORPENING. There will be two in this project, the upper and lower, and our work now is on the lower dam. This was started before the present emergency and was put in last year, as was testified, because we had a continuing contract and the cost of closing that up was considered to be so great that we should go ahead and complete the current contract.

COST OF BENEFIT RATIO

Mr. RABAUT. What is the cost to benefit ratio for this project?

General CHORPENING. The benefit to cost ratio for the entire Mississippi project is 1:4 to 1.

Mr. RABAUT. That is for the whole Mississippi project?

General CHORPENING. Yes, sir.

Mr. RABAUT. What about this particular project?

General CHORPENING. I do not know whether in the justification this was computed as a separate item. I do not think so. It was computed as part of the over-all Mississippi project.

It would be hard to establish as an individual component.

JUSTIFICATION FOR PROJECT

Mr. RABAUT. Why has it not been established and Congress furnished with an up-to-date economic justification of this project? Could you not do that on this particular project?

General CHORPENING. Because, again, it is an integral part of the over-all navigation project on the upper Mississippi.

Mr. RABAUT. Would it stand alone economically?

General CHORPENING. No, sir; it would not, because unless you had the other locks and dams down the river to bring the navigation up to this, there would not be anything to navigate.

COMPLETION DATE OF PROJECT

Mr. RABAUT. When do you plan to have this project completed?

General CHORPENING. For this portion—that is, the lower lock and dam—for which we are asking funds, we will have all of the money obligated in fiscal 1953. The actual construction time might extend a little beyond that.

Mr. RABAUT. That is only the lower lock and dam?

General CHORPENING. Yes, sir.

Mr. RABAUT. The total estimated Federal cost of St. Anthony Falls, Minneapolis, Minn., is $21,581,900. When are you going to complete this project as exemplified by this $21 million item?

General CHORPENING. The start of the new features—that is, the further features of this—will depend on the conditions existing

when future budgets are prepared. As of this time, under the criteria under which we are operating for national defense, I do not believe we would recommend it.

Mr. RABAUT. To what extent are local interests participating in this project?

General CHORPENING. Local interests are contributing $1,100,000 in cash and the lands required for the work that is under way.

Mr. RABAUT. Have you evaluated the lands?

General CHORPENING. I do not know whether we have evaluated the lands or not.

Mr. RABAUT. Would it add to the $1,100,000?

General CHORPENING. It would add to it; yes, sir. The costs to the local interests in connection with this are expected to total $2,851,000.

Mr. RABAUT. What actual work have they done or have they raised the money to do with reference to the harbor, channel, and other works they must do?

General CHORPENING. The city has furnished a $1,100,000 cash contribution and the lands required for work under way. The lands on the right bank in the vicinity of the lower lock, which is the one under construction, have been placed in condemnation by the Government for the city of Minneapolis, and possession has been obtained. The cost of this acquisition will be borne by the city. The city has completed the alteration of one bridge and is working on the second, and one water main has been moved.

Mr. RABAUT. Is the city putting in any dock terminal facilities?

General CHORPENING. To my knowledge, they have not at this time.

Mr. RABAUT. Are they planning to do so?

General CHORPENING. They are not planning to do so until the upper lock is completed or under way. I can say the city probably would not be taking any aggressive action toward that.

Mr. RABAUT. As your plans now stand for the completion of this project, what relationship does it have to the defense effort?

General CHORPENING. Not too great. As I said, this was started before the present emergency.

Mr. RABAUT. Last year the Corps of Engineers testified that the termination cost for the present contract would be substantially less in 1953 than in 1952. In a letter dated September 12, 1951, you estimated these costs to be $1,500,000. What is your present estimate as to the cost for the termination of the contract?

General CHORPENING. I would have to have that reviewed in the field, Mr. Rabaut, and furnish it for the record.

(The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings, part 1.)

Mr. DAVIS. Does the fact that your request for this year is limited to the completion of the lower lock and dam mean that in your over-all planning you do not contemplate beginning any of the other parts of the over-all project during this defense emergency?

General CHORPENING. From what we know now, I do not see that we would ask for the prosecution of any of the further features of the project.

Mr. DAVIS. Once you get the lower lock and dam completed, which is now under a continuing contract?

General CHORPENING. Yes, sir.

Mr. DAVIS. The increase there of a little over $1 million represents entirely the increased construction cost?

General CHORPENING. A great amount of the over-all cost of this project of $21,581,900 is in the future. We have applied what we consider to be a realistic index increase to that. We do not know when it may be built.

Mr. FORD. General Chorpening, on page 155 of the hearings last year Colonel Potter said, "We will need $2,603,000 to finish the contract in fiscal 1953." Now, you are requesting in fiscal year 1953 $1,792,700. I have been trying to work out the mathematics of this, and I cannot reconcile the two figures.

General CHORPENING. As I see it, he was talking at that time of also completing the two items for the lower lock and dam—power control and lighting and also the lock and dam road and miscellaneous—which just about make up the difference. Our thinking at this time is that we may not have to go ahead with those, and we only put in this year the amount to complete the present continuing contract. I believe that is the explanation. If that is not correct, I will amend it.

Mr. FORD. When the over-all program for navigation from Minneapolis on down was set up, was it contemplated to extend this navigation from the outskirts of Minneapolis to the middle of the city of Minneapolis?

General CHORPENING. At the time the original project was studied and presented to the Congress, I believe in the late 1920's or early 1930's, was it contemplated extending it to the upper part of Minneapolis; no, sir. A review study was asked for and made, and I believe this extension was originally authorized in 1937 and by various acts later, the last one being 1945.

Mr. FORD. When was the benefit to cost ration of 1:4 to 1 established for the entire project?

General CHORPENING. I think that benefit to cost ratio of 1:4 to 1 has been worked out in recent years. I do not know the exact date, but I can supply the date when we made that calculation.

Mr. FORD. The point I am interested in is this: If the 1:4 to 1 ratio was established when the initial project was set up, when you are making any extensions of it, as you are doing here, there ought to be a cost to benefit ratio established for at least that new portion of the project.

General CHORPENING. I think the original authorization of the upper Mississippi was made before we were required to include the cost to benefit ratio in navigation projects. Later—and I would think as late as 1945—we did have to include a cost to benefit ratio in our survey document. But in all of these navigation projects we do evaluate them as a comprehensive proposition, because any one part of it by itself would have little or no value.

As I said here earlier, to build these locks at the head of the stream with nothing downstream obviously would mean we would just have a monument there of no value whatsoever.

Mr. FORD. What is the city of Minneapolis doing with the contribution they have made of $1,100,000? Was that just given to the Federal Government for its use?

General CHORPENING. It was a cash contribution turned over to us for use in connection with the construction of the project, and the amount we show here is what the Federal cost is and to that is added what was contributed.

Mr. FORD. Has the city of Minneapolis actually made that cash contribution now?

General CHORPENING. $1,100,000 has been paid to the Federal Government.

Mr. FORD. And that money has been expended by the Federal Government on the project already?

General CHORPENING. I think if I told you exactly what the money is for, it would help somewhat. Local interests are required to make alterations to the highway, bridges, and publicly owned utilities, furnish all of the lands, easements, and rights-of-way and construction of spoil-disposal areas for new work and subsequent maintenance, and to contribute $1,100,000 in lieu of making alterations to private utilities, which work will be accomplished by the Government. I would have to check to see how much of that $1,100,000 we have expended up to this time or will have expended to complete this work we now have under way.

Mr. FORD. What steps are being taken oy the city of Minneapolis to go ahead and build new terminal facilities?

General CHORPENING. To my knowledge, nothing but some planning on it at this time. Since the upper lock must be completed before they could use those terminal facilities and since the completion of that at this moment is highly indeterminate, I would think they are making little actual progress in that direction.

MISSOURI RIVER, KANSAS CITY TO MOUTH

Mr. RABAUT. We will turn to "Missouri River, Kansas City to mouth." This is a project with a total estimated Federal cost of $115,713,000. The allotments to date have been $91,436,900. The appropriation for 1952 was $2,300,000. The tentative allocation for the fiscal year 1953 is $3,500,000.

This project will be, as of the close of 1952, 79 percent completed, and the money requested will bring it to 82 percent of completion.

General CHORPENING. This is that stretch of the Missouri River from Kansas City to the mouth, in the vicinity of St. Louis, where at one time we had practically completed the revetment and stabilization of that river.

During the last war we pretty well neglected it, and now we are trying to get that stretch of the river into proper shape for navigation. The work consists of essentital revetments and permeable dikes which will prevent erosion on the bends and provide a stable channel for navigation and save farm lands, and eventually enable us to get in agricultural levees which will protect that portion of the Missouri.

BENEFITS ATTRIBUTABLE TO NAVIGATION

Mr. RABAUT. What portion of the benefits of this project is attributable to navigation?

General CHORPENING. Traffic surveys indicate that during the assumed economic life of the project the savings to navigation will

average $13,398,000 annually, that is, with the work having been completed.

Mr. RABAUT. Percentagewise that would mean what?

General CHORPENING. The cost-benefit ratio is 1.9 to 1. Percentagewise it is about 50 percent.

Mr. RABAUT. What is the present volume and value of shipments on this portion of the river?

General CHORPENING. At the present time about 450,000 tons of commercial traffic annually.

Mr. RABAUT. And the value of it?

General CHORPENING. We do not have the value. I think we can perhaps supply it for the record.

(The matter referred to is as follows:)

The value of the traffic is not compiled and is virtually impossible to compute because of the several commodity classifications employed during this period and the varying groupings of commodities utilized.

STABILIZATION OF CHANNEL

Mr. RABAUT. To what extent have you been able to stabilize the actual channel of the Missouri?

General CHORPENING. We have been able to stabilize it in localities where we have worked, and have been able to maintain it very well. The trouble is that unless we are able to go ahead with the project continuously and keep it properly maintained, it deteriorates.

Mr. RABAUT. You are not talking of the river now, but of the channel?

General CHORPENING. Yes, sir. Of course we have to do some dredging each year.

VOLUME OF TRAFFIC

Mr. RABAUT. Please file for the record a statement giving this information from 1946 to the present: The volume of traffc, and differentiate between private shipments and materials used for river and harbor construction.

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

Missouri River, Kansas City to the mouth, calendar years 1946–50

[Tons of 2,000 pounds]

Year	Commercial traffic	Government traffic	Total all traffic
1946	527,534	223,706	751,040
1947	325,635	295,537	621,172
1948	251,987	545,227	797,214
1949	348,764	568,644	917,408
1950	317,544	445,589	763,133

COST BREAKDOWN

Mr. RABAUT. Also file a table showing the cost of this project for the same period of time, differentiating between maintenance and new work.

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

Missouri River, Kansas City to mouth—Costs

Fiscal year	New work	Maintenance
1946	$1,303,637.50	$2,540,323.60
1947	1,825,911.64	1,651,572.13
1948	1,982,066.86	2,714,839.79
1949	2,704,481.99	2,946,602.64
1950	2,133,335.51	2,833,894.13
1951	1,646,862.85	2,048,565.73

COST BREAKDOWN, KANSAS CITY-SIOUX CITY

Mr. RABAUT. And we would like to have the same information with reference to the portion between Kansas City and Sioux City.

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

Missouri River, Kansas City to Sioux City—Costs

Fiscal year	New work	Maintenance
1946	$2,300,634.64	$2,796,175.79
1947	2,967,434.43	1,204,705.10
1948	2,895,231.38	2,697,304.80
1949	3,847,138.57	2,963,030.99
1950	2,929,685.03	3,503,576.80
1951	2,505,226.13	2,951,868.20

LAND STABILIZATION PROGRAM

Mr. RABAUT. How much land have you reclaimed through your bank-stabilization program?

General CHORPENING. I do not think we have the figures here on that.

Mr. RABAUT. Supply them, then, for the record.

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

The land reclaimed on the Missouri River, Kansas City to mouth, amounts to 666,500 acres.

PARTICIPATION OF LOCAL INTERESTS

Mr. RABAUT. To what extent are local interests participating in the project?

General CHORPENING. As far as I know on the navigation project the local interests are contributing nothing. This is entirely a Federal project.

Mr. RABAUT. Even after we allow this $3,500,000 we still have $20,000,000 more to spend before this will be completed.

General CHORPENING. Of course, in addition to the navigation phase of this project when we do finally tie the river down to its channel we stop the erosion of very valuable lands, and once having tied the river down, and proceeded along sufficiently with our upstream flood-

control dams, then we want to build the authorized agricultural levees in the lower river which will protect the agricultural flood plain in this area.

Mr. RABAUT. Do you feel that the barge companies will make greater investments and you will have more traffic on the river if you do put it in better shape?

General CHORPENING. Yes, sir; we do definitely.

FLOOD PROTECTION

Mr. KERR. Would the $3,500,000 requested for 1953 offer protective measures against floods similar to the one that swept through this area recently?

General CHORPENING. No, sir; but this amount we are asking for this year will make progress on the tying down of the river in this stretch.

Mr. KERR. A large part of the floodwater that flooded that area west of the river came out of the Kansas River, did it not?

General CHORPENING. It came out of the Kansas River and entered the Missouri at Kansas City, and in this stretch we are now talking about due to the severe flood considerable damage was done to some of our structures, not as much, however, as we originally thought might have been done to them.

Mr. KERR. Do you think this sum of $3,500,000 will take care of the situation?

General CHORPENING. For this year it will help considerably; yes, sir.

Mr. DAVIS. You mentioned that there had been substantial damage done to some of the works which had previously been completed. Does the cost increase represent the damage done to some of your completed works in this over-all cost?

General CHORPENING. That damage I referred to is to be paid for out of our maintenance fund. This request is for new construction.

Mr. DAVIS. In many cases it represents a complete replacement of what you had done?

General CHORPENING. That is correct.

Mr. DAVIS. But it would be charged to maintenance?

General CHORPENING. Yes, sir.

TYPE OF REVETMENT USED

Mr. DAVIS. There has been no use on the Missouri River of the concrete mats that we saw on the Mississippi River?

General CHORPENING. They do not use concrete mats on the Missouri River. The reason is that that heavy type of revetment is not required with the depth of stream that we have up in that vicinity. As you recall on the trip down the river this is a very heavy type of mat and quite expensive and is needed for the depth of river and the currents and volume we have there, whereas, up in this stretch of the river with shallower depth a lumber mat or pile revetments are satisfactory.

Mr. DAVIS. I asked that question because of the relative permanence of something of that kind, and in view of experience that has been demonstrated here of putting things in on the Missouri River and

having them washed out and then having to start all over again. What methods have you used in recent years on the Missouri River to improve that situation?

General CHORPENING. There has always been a lot of consideration given to the proper types of mats to use on various portions of the river, but we have always considered, and still do, that we would not be justified in the tremendously greater expense of the concrete mats up in this section. Even with concrete mats if you do not maintain them and watch them and put in some here and there each year in maintenance they too will go out. A lot of the trouble we have encountered on the Missouri River was because for a period of years we did not do any maintenance, nothing was done.

Mr. DAVIS. This is a rather discouraging prospect. By that I mean that while the figures here show that another $21,000,000 is going to finish this job, as a matter of fact we know that is not going to be the case.

(Discussion off the record.)

MAINTENANCE COST

Mr. DAVIS. Is the comparatively high maintenance cost on this section of the river taken into consideration in figuring your benefit-cost ratio to determine whether or not this is economically feasible as to navigation?

General CHORPENING. Yes, sir; it is. We estimate that the average annual charges are $14,315,000 which includes, of course, amortization of the original investment, plus the maintenance that will be required.

NEWARK BAY, HACKENSACK, AND PASSAIC RIVERS, N. J.

Mr. RABAUT. The next item is "Newark Bay, Hackensack, and Passaic Rivers, N. J." The total estimated Federal cost is $9,957,000. The allotments to date have been $8,522,000. The appropriation for 1952 was $732,000, and the tentative allocation for the fiscal year 1953 is $508,000.

The percentage of completion as of the close of 1952 will be 86 percent, and with the money requested for 1953 it will be 91 percent complete.

General CHORPENING. This channel here is part of the comprehensive system of chanels in and around the port of New York. To give you an idea of the extent of the commerce here, in 1949 there were 16,500,000 tons that traversed this channel, and in 1950 there were 21,500,000 tons, in round numbers, an increase in 1 year of 5,000,000 tons. The amount that we are requesting this year is for dredging and rock removal in triangular cut-offs at the entrance to Newark Bay to 37 feet under a continuing contract. This will complete that particular portion of the work, and the only remaining portion, which is a 20-foot channel in the Passaic River has been deferred at this time.

INCREASE IN ESTIMATE

Mr. RABAUT. Last year Colonel Potter said that they would need only $300,000 to complete this project.

General CHORPENING. That is correct.

Mr. RABAUT. Now you are requesting $508,000.

General CHORPENING. That was the first estimate. In past years, we sincerely believed we could complete this work we have under way for $300,000. We have encountered more rock and more difficult digging than we expected at that time and it has increased the amount we need to complete it by that sum, $208,000.

Mr. RABAUT. Now, General, you know the rock is firm, but is this a firm figure now?

General CHORPENING. It is as firm as we can make it, sir.

NEW YORK AND NEW JERSEY CHANNELS

Mr. RABAUT. The next project is New York and New Jersey channels. This is a project with a total estimated Federal cost of $56,236,000. The allotments to date have been $34,911,000. There was appropriated in 1952 $1,414,000, and the tentative allocation for the fiscal year 1953 is $912,000. As of the close of 1952 it will be 62 percent completed, and the money requested for 1953 will bring it to 64 percent of completion.

General CHORPENING. The funds we are requesting this year, $912,000, are to complete the Perth Amboy anchorage under a continuing contract. I do not think it is necessary for me to go into any more detail than is in our justification sheets on the importance and tremendous value of the New York and New Jersey channels to the port of New York.

It is significant, I think, to say that the commerce during the calendar year 1950 was 67,973,320 tons.

Mr. KERR. If you receive the $912,000 requested this year, would you be able to complete the Perth Amboy anchorage?

General CHORPENING. We would complete that particular portion of this project; yes, sir.

Mr. FORD. You say that you need $912,000 to complete a continuing contract. Is that a signed and sealed obligation?

CONTINUING CONTRACTS

General CHORPENING. We do have a continuing contract. Now, then, those continuing contracts are based on some number of yards which may be somewhat more or less than the amount estimated. If we did encounter a tremendously greater amount of yardage, which I certainly do not expect to be the case here as we have reasonably good soundings the cost would be more. I do not think we will have to meet that on this project. The funds requested will be expended under the present contract.

Mr. BOUSQUET. The contract was awarded on the 24th of July 1951.

Mr. FORD. That is a contract for this fiscal year on the contemplated amount you expect to get for the fiscal year 1953?

Mr. BOUSQUET. It is a contract awarded for the estimated amount of work, and we told them that we have so many dollars available for the fiscal year 1952, and that additional funds depend on further action by the Congress. That contract form was put in the record last year. It makes no definite commitment that additional money will be appropriated.

Mr. FORD. It is not a binding figure as to dollars, but it is a binding contract as to the amount of earth or obstructions to be taken out?

General CHORPENING. It is a binding figure on the unit price, but it is binding only so far as the funds available are concerned. That was gone into quite thoroughly before the committee last year on our use of continuing contracts. We use them in nearly all of our works.

Mr. FORD. Then, turning back for a minute to the Newark Bay project, how can you be so far off on that project? Colonel Potter said it would take $300,000 to finish it, and this year you are requesting $508,000.

General CHORPENING. I have to go into a little detail on that. What actually happened there, Mr. Ford, is we were off in our estimates on the item above that, deepening the main channel of Newark Bay, and we had to apply more funds there last year and take some of the funds we had hoped to put on a different contract, and we are asking for funds for this year to complete that job.

Mr. FORD. In other words, it took more than the $300,000 you anticipated in the fiscal year 1952 to finish that part of the job?

General CHORPENING. It took more than we anticipated in the fiscal year 1951.

Mr. FORD. So, you reallocated funds which you had requested within the project?

General CHORPENING. Yes, sir.

Mr. FORD. Will that increase of $208,000 substantially increase the over-all cost of that particular project?

General CHORPENING. The over-all cost, I believe this year is $135,000 over our estimated cost of last year.

Mr. FORD. You must have had some reductions in other parts of your project.

General CHORPENING. That is correct; yes.

BUFFALO HARBOR, N. Y.

Mr. RABAUT. The next project is Buffalo Harbor, N. Y. This project has a total estimated Federal cost of $17,020,000. The allotments to date have been $4,927,900. The 1952 appropriation was $305,000, and the tentative allocation for the fiscal year 1953 is $436,000.

The percentage of completion as of the close of the fiscal year 1952 will be 29 percent. The money requested for the fiscal year 1953 will bring it to 31 percent of completion.

What is the reason for the increase in the estimated cost?

General CHORPENING. The increase in the estimated cost over that given last year is $850,000. We have approximately $12,000,000 remaining on this over-all project. That $850,000 is occasioned by the over-all increase in construction costs.

Mr. DAVIS. There is something here that I am trying to figure out mathematically. I notice on the 30th of June 1951 you had a little over $22,000 left. Then, last year's appropriation was $305,000. Then on December 31 you had a $337,000 balance, which means that on December 31 you had more money unobligated than you had on June 30, plus the amount of last year's appropriation.

Mr. BOUSQUET. When we get close to the end of the fiscal year in order to keep our work moving sometimes we have to borrow money from one project and use it to continue another one, and then as soon

as we get our new appropriation an adjustment is made so that each project starts the new year with all of the money that it is entitled to.

General CHORPENING. The difference here, I think, is about $10,000.

Mr. DAVIS. Yes.

General CHORPENING. I think Mr. Bousquet's explanation is the correct one. We could check that and see that it is.

Mr. DAVIS. Since the funds that you request represent the amount needed to clean up the job for the southerly outer harbor, and no funds are requested this year for any other portion of the harbor, does that mean that in your planning you expect to finish the southerly outer harbor and then finish the other portions of the work in the over-all harbor project?

General CHORPENING. I cannot say now that we are going to defer them indefinitely, and the reason I cannot say that is because you will note in our justification that this is an extremely important and busy harbor, and at this time the Bethlehem Steel Co. is engaged in building a $175,000,000 plant extension which will require deep draft vessel traffic from the outer harbor to supply raw materials to operate their expanded facilities. With that kind of activity going on I foresee the possibilities fairly soon of local demands and proper demands, perhaps for going ahead with some of the additional authorized parts of this project.

Mr. DAVIS. As far as the justifications show the Bethlehem Steel Co. expansion seems to be the reason for the work that is being done in the southerly outer harbor. How far should the Federal Government be led in its thinking on these projects by the expansion plans of one individual company?

General CHORPENING. Well, that individual company is a company that is engaged in an industry that is vital to the over-all defense effort that this country is now making, and even if it were not for defense needs, it is vital to the industrial activity and development of the Nation. This harbor is used, by many other industries than the Bethlehem Steel Corp.

Mr. DAVIS. If Bethlehem had decided to put that plant at Erie, Pa., or some other port on the Great Lakes would the Federal Government then be called upon to deepen that channel for them there?

General CHORPENING. I would think that, taking a hypothetical case, whenever a large industry concludes to go into some particular watercourse and establish a plant, that their requests and committee resolutions would come in for us to study that particular watercourse to determine if a project can be justified there.

Actually, this project was authorized before Bethlehem started with this expansion. It was not authorized because they were in, but it was authorized ahead of that time. The total tonnage in Buffalo Harbor in 1950 was nearly 17,000,000 tons.

Mr. DAVIS. Just the same it leaves me with the impression that this harbor has considerable shipping potential and that it would continue to go on handling the traffic with its present facilities if it were not for the building of this one big steel plant in there.

General CHORPENING. The trend on the Great Lakes is toward larger ships and ore carriers each year, and I think that trend will continue, and it is a proper trend because with a lesser amount of material going into ships proportionately you can carry more ore. Of course,

now the shippers are being favored by the high levels on the Lakes which are going to cause other people lots of difficulty.

Mr. FORD. Bethlehem Steel is the principal beneficiary of this expenditure by the Federal Government; at least initially Bethlehem Steel?

General CHORPENING. There are many other uses of this waterway. As to the proportion that they benefit against others, I do not have the figures available.

Mr. FORD. Where does Bethlehem get its ore at the present time?

General CHORPENING. I believe Bethlehem gets its ore from the Mesabi Range.

Mr. FORD. Bethlehem is not interested in this Labrador development?

General CHORPENING. I do not know whether Bethlehem has any part of that property or not. I believe the United States Steel Corp. is the big developer up there. I can determine that.

Mr. FORD. Can you find out if Bethlehem has any interest in that Labrador development and put a statement in the record on it?

(The matter referred to is not available to the Corps of Engineers.)

Mr. FORD. Does Bethlehem have any interest in the Venezuelan or Liberian ore development?

General CHORPENING. Yes, sir; they do have in Venezuela. I do not know about Liberia.

Mr. FORD. Can you find out for us in that regard and put that in the record?

General CHORPENING. I think I can; yes, sir.

(The matter referred to is not available to the Corps of Engineers.)

Mr. FORD. If they do have investments in Liberia, in Venezuela, and in Labrador, and they are getting ore from the Mesabi, it is understandable that they might be objecting to the St. Lawrence seaway.

General CHORPENING. Yes, sir.

Mr. FORD. And why they might be interested in the further development of Buffalo harbor and of Baltimore harbor.

General CHORPENING. Of course, if the St. Lawrence project is built, Buffalo harbor is going to be, I would say, augmented in the commerce using it.

Mr. FORD. As I recall, however, the Buffalo Chamber of Commerce is unalterably opposed to the construction of the St. Lawrence seaway and power project.

General CHORPENING. There are many differences of opinion on the St. Lawrence seaway.

Mr. FORD. Am I not correct that Buffalo harbor—or, at least, the Buffalo Chamber of Commerce—has gone on record in opposition to it, the fear being that they will lose the grain shipments and so forth.

Can you put into the record for the use of the committee a breakdown of the tonnage that is handled by Buffalo harbor, product by product?

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

Port of Buffalo, N. Y.

Freight traffic, 1950

[Short tons]

Commodity	Receipts and shipments by locality			Through traffic by locality [1]		Black Rock lock	
						Through	
	Total	Buffalo Harbor	Niagara River	Buffalo Harbor	Niagara River	Northbound	Southbound
Total, all traffic [2]	20,375,224	16,698,672	3,896,684	[3] 3,961,295	[3] 1,011,601	[3] 4,000,306	[3] 640,719
Total, by lake	19,028,300	15,822,663	3,205,637	3,205,637		2,970,607	235,030
Foreign	1,734,861	1,683,744	51,117	51,117			51,117
Imports, overseas	125	125					
ANIMALS AND ANIMAL PRODUCTS, EDIBLE							
047 Fish and fish products, otherwise prepared or preserved, except shellfish	83	83					
MACHINERY AND VEHICLES							
781 Automobiles, trucks, and busses, excluding parts, accessories, and service equipment	42	42					
Exports, overseas	3,169	3,169					
VEGETABLE FOOD PRODUCTS AND BEVERAGES							
107 Wheat flour	1,195	1,195					
NONMETALLIC MINERALS							
517 Petroleum coke	764	764					
555 Nonmetallic minerals, n. e. c.	1,207	1,207					
MACHINERY AND VEHICLES							
773 Agricultural machinery, implements and parts, including tractors, except S. C. I.	3	3					
Imports, Canadian [4]	1,337,772	1,337,772					

	ANIMALS AND ANIMAL PRODUCTS, EDIBLE							
040	Fish, fresh or frozen, except shellfish	30	30					
	VEGETABLE FOOD PRODUCTS AND BEVERAGES							
102	Barley and rye	58,300	58,300					
103	Wheat	375,677	375,677					
104	Oats	102,449	102,449					
110	Animal feeds (fodders and feeds), n. e. c	1,548	1,548					
130	Fruits and preparations, fresh or frozen, except bananas	74	74					
	WOOD AND PAPER							
445	Paper base stocks, n. e. c	102	102					
450	Standard newsprint paper	4,497	4,497					
	NONMETALLIC MINERALS							
526	Building, monumental, and stone manufactures, n. e. c	170,397	170,397					
540	Clays and earths	2,000	2,000					
	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
600	Iron ore and concentrates	568,119	568,119					
602	Iron, steel, tinplate, and terneplate scrap and waste	27,557	27,557					
610	Chrome	521	521					
	MISCELLANEOUS							
920	Articles, the growth, produce or manufacture of the United States, returned	26,501	26,501					
	Exports, Canadian [4]	393,795	342,678	51,117	51,117			51,117
	VEGETABLES FOOD PRODUCTS AND BEVERAGES							
100	Corn	5,964	5,964					
102	Barley and rye	2,822	2,822					
103	Wheat	17,368	17,368					
183	Molasses, inedible	600		600	600			600
	VEGETABLE PRODUCTS, INEDIBLE, EXCEPT FIBERS AND WOOD							
232	Flaxseed	4,883	4,883					
235	Oilseeds, n. e. c	10,315	10,315					
	NONMETALLIC MINERALS							
501	Anthracite coal	2,729	2,729					
502	Bituminous coal and lignite	281,546	281,546					
504	Coke, except petroleum coke	21,984		21,984	21,984			21,984
506	Motor fuels and gasoline, except S. C. i	6,426	12	6,414	6,414			6,414
510	Gas oil and distillate fuel oil	19,337		19,337	19,337			19,337
511	Petroleum, crude	2,782		2,782	2,782			2,782

See footnotes at end of table.

Freight traffic, 1950—Continued

[Short tons]

Commodity		Receipts and shipments by locality			Through traffic by locality [1]		Black Rock lock	
		Total	Buffalo Harbor	Niagara River	Buffalo Harbor	Niagara River	Through	
							Northbound	Southbound
	CHEMICALS AND RELATED PRODUCTS							
800	Coal-tar products	7,597	7,597					
803	Coal-tar products, except S. C. I.	9,442	9,442					
	Domestic [2]	18,640,363	15,014,928	3,845,567	3,350,883	452,306	3,479,482	543,839
	Lakewise	17,308,200	14,153,680	3,154,520	3,154,520		2,970,607	183,913
	Lakewise receipts	15,087,667	12,297,715	2,789,952	2,789,952		2,789,952	
	VEGETABLE FOOD PRODUCTS AND BEVERAGES							
100	Corn	372,887	372,887					
102	Barley and rye	77,360	77,360					
103	Wheat	1,443,994	1,443,994					
104	Oats	49,170	49,170					
183	Molasses, inedible	14,871		14,871	14,871		14,871	
	VEGETABLE PRODUCTS, INEDIBLE, EXCEPT FIBERS AND WOOD							
232	Flaxseed	216,784	216,784					
	NONMETALLIC MINERALS							
502	Bituminous coal and lignite	2,307,694	330,361	1,977,333	1,977,333		1,977,333	
504	Coke, except petroleum coke	8,871	8,871					
510	Gas oil and distillate fuel oil	8,867		8,867	8,867		8,867	
511	Petroleum, crude	5,267		5,267	5,267		5,267	
512	Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	114,352	12,492	101,860	101,860		101,860	
514	Residual fuel oil (including bunker oil)	92,294	88,407	3,887	3,887		3,887	
522	Building cement	94,180	94,180					
550	Sulfur	13,384	13,384					
551	Limestone	3,480,739	3,367,768	112,971	112,971		112,971	
554	Sand and gravel, crushed rock, except limestone	96,550	96,550					

	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
600	Iron ore and concentrates	6,035,350	5,519,260	516,090	516,090		516,090	
601	Pig iron, including sponge iron	2,027	2,027					
602	Iron, steel, tin plate, and terneplate scrap and waste	245,118	245,118					
606	Other iron and steel fabricated basic producce	12,845	12,845					
	MACHINERY AND VEHICLES							
770	Agricultural machinery, implements and parts, including tractors	3,798		3,798	3,798		3,798	
781	Automobiles, trucks, and busses, excluding parts, accessories, and service equipment	391,265	346,257	45,008	45,008		45,008	
	Lakewise shipments	2,006,838	1,822,925	183,913	183,913			183,913
	VEGETABLE PRODUCTS, INEDIBLE, EXCEPT FIBERS AND WOOD							
235	Oilseeds, n. e. c.	3,385	3,385					
	NONMETALLIC MINERALS							
501	Anthracite coal	302,577	302,577					
504	Coke, except petroleum coke	1,977		1,977	1,977			1,977
510	Gas oil and distillate fuel oil	9,874	2,510	7,364	7,364			7,364
512	Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	149,761	58,729	91,032	91,032			91,032
513	Kerosene	13,450	9,497	3,953	3,953			3,953
515	Lubricating oils and greases	31,734	31,734					
551	Limestone	91,961	91,961					
	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
601	Pig iron, including sponge iron	544,146	464,561	79,585	79,585			79,585
602	Iron, steel, tin plate, and terneplate scrap and waste	55,836	55,836					
603	Iron and steel ingots, blooms, slabs, and billets	224,055	224,055					
604	Primary iron and steel mill products	331,023	331,023					
606	Other iron and steel fabricated basic products	203,954	203,954					
607	Iron and steel manufactures, n. e. c.	5,249	5,249					
	MACHINERY AND VEHICLES							
781	Automobiles, trucks, and busses, excluding parts, accessories, and service equipment	37,856	37,854	2	1			
	LOCAL							
	NONMETAL MINERALS							
554	Sand and gravel, crushed rock, except limestone	213,695	33,040	180,655	180,655		180,655	
	Total, by New York State Barge Canal	1,043,211	589,999	453,212	196,363	452,306	306,611	342,058
	Coastwise	45,840	41,399	4,441		12,730	1,813	10,917

See footnotes at end of table.

Freight traffic, 1950—Continued

[Short tons]

	Commodity	Receipts and shipments by locality			Through traffic by locality [1]		Black Rock lock	
		Total	Buffalo Harbor	Niagara River	Buffalo Harbor	Niagara River	Through	
							Northbound	Southbound
	COASTWISE RECEIPTS (VIA NIAGARA RIVER)							
	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
602	Iron, steel, tinplate, and terneplate scrap and waste	10,917	10,917			10,917		10,917
	COASTWISE RECEIPTS (VIA OSWEGO)							
	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
602	Iron, steel, tinplate, and terneplate scrap and waste	21,589	21,589					
	Coastwise shipments (via Niagara River)	6,254	1,813	4,441		1,813	1,813	
	VEGETABLE FOOD PRODUCTS AND BEVERAGES							
183	Molasses, inedible	4,441		4,441				
	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
606	Other iron and steel fabricated basic products	1,813	1,813			1,813	1,818	
	COASTWISE SHIPMENTS (VIA OSWEGO)							
	CHEMICALS AND RELATED PRODUCTS							
850	Nitrogenous fertilizers and fertilizer materials	7,080	7,080					
	Internal	997,371	548,600	448,771	196,363	439,576	304,798	331,141
	Internal receipts (via Niagara River)	562,596	331,141	231,455		331,141		331,141
	VEGETABLE FOOD PRODUCTS AND BEVERAGES							
104	Oats	2,272	2,272			2,272		2,272
110	Animal feeds (fodders and feeds), n. e. c.	6,000	6,000			6,000		6,000

126	Soybean flour, edible	1,860	1,860			1,860		1,850
183	Molasses, inedible	67,493	40,744	26,749		40,744		40,744
	NONMETALLIC MINERALS							
510	Gas oil and distillate fuel oil	26,080		26,080				
512	Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	124,908	5,655	119,253		5,655		5,655
514	Residual fuel oil (including bunker oil)	193,813	140,089	53,724		140,089		140,089
519	Petroleum products, n. e. c	2,534		2,534				
550	Sulfur	51,220	51,220			51,220		51,220
	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
602	Iron, steel, tin plate, and terneplate scrap and waste	83,482	80,367	3,115		80,367		80,367
606	Other iron and steel fabricated basic products	1,530	1,590			1,590		1,590
	CHEMICALS AND RELATED PRODUCTS							
853	Phosphate fertilizer materials	1,344	1,344			1,344		1,344
	Internal receipts (via Oswego)	305,057	108,694	196,363	196,363		196,363	
	NONMETALLIC MINERALS							
510	Gas oil and distillate fuel oil	59,228	911	58,317	58,317		58,317	
512	Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	106,225	1,649	104,576	104,576		104,576	
514	Residual fuel oil (including bunker oil)	129,965	96,495	33,470	33,470		33,470	
550	Sulfur	1,570	1,570					
	METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
602	Iron, steel, tin plate, and terneplate scrap and waste	8,069	8,069					
	Internal shipments (via Niagara River)	129,388	108,435	20,953		108,435	108,435	
	VEGETABLE FOOD PRODUCTS AND BEVERAGES							
100	Corn	28,562	28,562			28,562	28,562	
103	Wheat	26,732	26,732			26,732	26,732	
104	Oats	432	432			432	432	
107	Wheat flour	9,758	9,758			9,758	9,758	
183	Molasses, inedible	17,717		17,717				
	VEGETABLE PRODUCTS, INEDIBLE, EXCEPT FIBERS AND WOOD							
232	Flaxseed	5,832	5,832			5,832	5,832	

See footnotes at end of table.

Freight traffic, 1950—Continued

[Short tons]

Commodity	Receipts and shipments by locality			Through traffic by locality [1]		Black Rock lock	
						Through	
	Total	Buffalo Harbor	Niagara River	Buffalo Harbor	Niagara River	Northbound	Southbound
NONMETALLIC MINERALS							
512 Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	3,236		3,236				
550 Sulfur	300	300			300	300	
METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES							
601 Pig iron, including sponge iron	25,676	25,676			25,676	25,676	
603 Iron and steel ingots, blooms, slabs, and billets	1,123	1,123			1,123	1,123	
604 Primary iron and steel mill products	3,697	3,697			3,697	3,697	
607 Iron and steel manufactures, n. e. c.	2,369	2,369			2,369	2,369	
CHEMICALS AND RELATED PRODUCTS							
850 Nitrogenous fertilizers and fertilizer materials	3,954	3,954			3,954	3,954	
INTERNAL SHIPMENTS (VIA OSWEGO)							
VEGETABLE FOOD PRODUCTS AND BEVERAGES							
103 Wheat	330	330					
Intraport and local	[3] 288,952	271,249	237,835			202,264	17,868
Intraport receipts	(2)	17,868	202,264			(2)	(2)
NONMETALLIC MINERALS							
502 Bituminous coal and lignite	(2)		197,939			(2)	
514 Residual fuel oil (including bunker oil)	(2)	17,868	4,325			(2)	(2)
Intraport shipments	220,132	202,264	17,868			202,264	17,868

	NONMETALLIC MINERALS							
502	Bituminous coal and lignite	197,939	197,939				197,939	
514	Residual fuel oil (including bunker oil)	22,193	4,325	17,868			4,325	17,868
	Local [6]	68,820	51,117	17,703				
	VEGETABLE FOOD PRODUCTS AND BEVERAGES							
100	Corn	675	675					
103	Wheat	44,759	44,759					
107	Wheat flour	720	720					
	VEGETABLE PRODUCTS, INEDIBLE, EXCEPT FIBERS AND WOOD							
232	Flaxseed	4,963	4,963					
	NONMETALLIC MINERALS							
512	Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	4,745		4,745				
514	Residual fuel oil (including bunker oil)	12,958		12,958				

[1] This traffic reported as a receipt or shipment at the port of Buffalo.
[2] Total intraport receipts included in Buffalo Harbor and Niagara River, but not included in the port of Buffalo or Black Rock lock.
[3] Additional through traffic under like headings included in total, all traffic.
[4] Excludes vehicles, accompanying passengers, ferry traffic: In-bound, 11,233; out-bound, 12,602.
[5] Excludes vehicles, accompanying passengers, ferry traffic: In-bound, 5,390; out-bound, 4,663.
[6] Does not include 213,695 tons local receipts by lake.

NEW YORK HARBOR: ENTRANCE CHANNELS AND ANCHORAGE AREAS

Mr. RABAUT. We will turn now to "New York Harbor, entrance channels and anchorage areas." The total estimated Federal cost of this project is $17,600,000; allotments to date, $16,176,000; appropriation in 1952, $400,000; and tentative allocation for fiscal 1953, $524,000. The percentage of completion as of the close of the fiscal year 1952 will be 92 percent, and the money requested for fiscal 1953 will bring the percentage of completion up to 95 percent.

General CHORPENING. We propose to expend the $524,000 requested here on the completion of the deepening and widening of Ambrose and Anchorage Channels to 45 feet for a width of 2,000 feet. This will be done by our own seagoing hopper dredge.

I would like to mention that the over-all estimate has been reduced by $300,000 on this project this year. We believe that, with this amount of money, we can complete this work, and I do not think any further elaboration is essential as to the great importance of New York Harbor.

CLEVELAND HARBOR, OHIO

Mr. RABAUT. We will turn to "Cleveland Harbor, Ohio." This project has a total estimated Federal cost of $25,272,000; the allotments to date are $11,228,000; the appropriation for 1952 was $1,000,000; and the tentative allocation for fiscal 1953 is $6,000,000. The project will be 44 percent completed as of the close of fiscal 1952, and the money requested for 1953 would bring the percentage of completion to 68 percent.

What do you intend to do with this $6,000,000?

General CHORPENING. With the $6,000,000 we are requesting here we propose to do work on the replacement of four of the bridges over the Cuyahoga River, which forms Cleveland harbor. That work on the first two bridges consists of actual construction. On the last two, No. 15 and No. 3, it is planning only.

Mr. RABAUT. What industry will benefit by the expenditure of this money?

General CHORPENING. The steel-manufacturing plants along the Cuyahoga River will utilize these facilities. The ore boats come up this river to those facilities, and again, as those boats increase in size, it becomes more and more important that these bridges, which are now bottlenecks to getting up there, be altered as proposed here.

Mr. RABAUT. It seems that we are taking care of all the steel industries as we go from one project to another. What companies will use the facilities?

Colonel MILNE. Jones & Laughlin, Republic, and American Wire & Cable are the principal ones above the bridges that we want to fix.

Mr. RABAUT. In 1951 the estimated cost of this project was $25,208,000; in 1952 it was $23,904,000; and in 1953 it is $25,272,000. How do you account for this rise and fall in the estimated cost?

General CHORPENING. The increase this year over last year is $1,368,000. This construction consists almost entirely of steel. I suppose there is some concrete in here. With the unit prices prevailing there and the over-all increase in cost applied, that is what we find.

Mr. RABAUT. What caused the decrease? It was $25,208,000 in 1951 and $23,904,000 in 1952.

General CHORPENING. I think we were too optimistic last year.

Mr. RABAUT. How firm are your present cost estimates?

General CHORPENING. I think they are as firm as the prevailing cost index in the country.

COST OF BRIDGE REPLACEMENT

Mr. RABAUT. Explain the extent of the participation of the railroads in the cost of replacing these railroad bridges.

General CHORPENING. The railroad bridges are being replaced under the rules of the Truman-Hobbs Act, in which there is a rather complicated formula set up as to the portion to be paid for by the railroads and the portion to be paid for by the United States.

Mr. RABAUT. Under the act are they paying their share?

General CHORPENING. They are paying their proper share.

Mr. RABAUT. Suppose you file for the record the railroads' and the Government costs for each of these bridges.

General CHORPENING. Yes, sir.

(The information requested follows:)

Cleveland Harbor, estimated division of bridge alteration costs

Bridges	Federal Government cost	Railroad costs	Bridges	Federal Government cost	Railroad costs
No. 25	$1,803,000	[1] $124,000	No. 3	$3,012,000	$273,000
No. 8	1,893,000	[1] 151,500	No. 19	354,000	61,000
No. 9	3,313,000	236,500			
No. 1	3,464,000	2,300,000	Total	18,047,000	3,742,000
No. 15	4,208,000	596,000			

[1] Under construction. Based on bid prices.

Mr. RABAUT. There are six bridges involved here; are there not?

General CHORPENING. Yes, sir.

Mr. RABAUT. Are those all railroad bridges?

General CHORPENING. Yes, sir.

Mr. RABAUT. There is "pier reconstruction of bridge."

General CHORPENING. There is pier reconstruction on one bridge and replacement of six bridges.

Mr. RABAUT. So really there are seven undertakings there?

General CHORPENING. There were highway bridges, also, over the river, all of which had to be paid for by the local interests.

Mr. KERR. Why should not the railroads pay a large part for the replacement of their bridges?

General CHORPENING. The railroad pays a percentage.

Mr. KERR. What percentage?

General CHORPENING. The percentage varies in each case. It goes back to the provisions of the law known as the Truman-Hobbs Act. It is rather complicated to figure it. It is a matter of what is the useful life of the old bridge, how much of the construction is involved with navigation, and how much otherwise. It is all laid down in the law, and we revise those figures in accordance with that. As we have been requested, we will furnish those amounts to the committee.

Mr. KERR. How much, if anything, have the railroads contributed toward the replacement of these bridges?

General CHORPENING. It varies with each bridge. We do not have the figures here, but we are going to supply them for the record.

Mr. DAVIS. General, year before last, as I understand it, there was a very small amount of money spent on Cleveland Harbor, and the reason given then was because we were in a defense emergency and we were not going to spend that much money. Last year the committee felt there was still a defense emergency; so the request for $1,000,000 was temporarily turned down by this subcommittee. Now the request jumps to $6,000,000 for construction on two bridges and planning, with the obvious intention of a couple more bridges probably coming along in next year's request.

Has there been any change in the conditions which prompted the Department of Defense to cut this thing to the minimum 2 years ago and now to contemplate an accelerated program of construction?

General CHORPENING. As we go along implementing the over-all defense effort, the necessity has become more apparent for prosecuting this project. Transportation savings will be effected through increased cargo capacity by the utilization of deeper-draft boats and increased use of larger vessels. The steel plants on the upper Cuyahoga River are engaged in plant-expansion programs at this time to expedite defense preparation, and they will require larger vessels to supply sufficient raw material to operate the expanded facilities at capacity.

Mr. DAVIS. I cannot get away from the impression that the request for $925,000 for bridge No. 1 last year was kind of a come-on to put us in a position where we could not say no to the completion of it this year.

General CHORPENING. I believe last year it was indicated that amount would not complete the replacement of that bridge, and it was intended to start the replacement of that bridge.

Mr. DAVIS. Is the replacement of bridge No. 9 of appreciable value in and of itself, or does the value of that depend on the replacement of all the rest of the bridges that are involved in this river and harbor project?

General CHORPENING. The program of the replacement of the bridges is set up in coordination with the local shipping interests and local interests and also our engineering judgment on those that constitute the worst bottleneck. In other words, we are trying to get the worst ones removed as we go along.

I have not seen this, and I would like to have Colonel Milne make a statement. He has seen this situation.

Colonel MILNE. I inspected Cleveland Harbor about a year ago, Mr. Davis. It is almost impossible to tell you the situation up there. In the navigation on the river, it is unbelievable to see how they are bringing in those huge ore carriers. They will run anywhere from 475 to 600 feet in length, and they are trying to move them up this little river, which is very crooked. Through these very narrow bridges with openings sometimes of less than 100 feet they are carrying a boat with a beam of 75 feet and 600 feet long. Actually I saw one boat go up the river, and the stern of the boat as it rounded the bend was extending over a parking lot adjacent to the bank.

Those bridges present a very definite obstacle to navigation, because the ships have to slow down and maneuver before they go through

them. We have made some very conservative estimates of what the replacements would save. I do not think the question of time, in itself, is too important in this defense effort, but the thing I think we must bear in mind is that probably the most critical thing on the Great Lakes today is the lack of ore carriers. They cannot be built fast enough to meet the demands for ore. Yet here are five bridges in the Cleveland area which every year are costing 120 ship trips in all to be lost. Or putting it in a different way, if these bridges were removed and replaced with the bridges we contemplate, the same quantity of ore could be carried into the Cleveland area with 120 less trips or the equivalent of two million tons of ore a year that would be available elsewhere. And in ore I do not have to tell you how critical that situation is.

Mr. FORD. That figure of 120 ship trips sounds very impressive. Now, if you had the facilities at Cleveland Harbor to permit 120 more ship handlings a year, could they handle the comparable number of ships at the other end of the line, up at Duluth?

Colonel MILNE. It is the reverse; it is 120 ship trips less. You could carry the amount of ore required in Cleveland Harbor with 120 less trips, leaving 120 trips to go to other places. But to answer the question as to whether or not Duluth could handle them, yes; Duluth could handle them.

General CHORPENING. And the Soo locks.

Colonel MILNE. And the Soo locks. In other words, you in effect would be creating a certain number of boats available for carrying ore without having to build them. You have them now, but you are wasting them.

Mr. FORD. In other words, the capacity at Duluth and the capacity at the Soo are adequate to handle any foreseeable increase of traffic of iron-ore carriers?

Colonel MILNE. Yes, sir.

Mr. FORD. What is the contemplated schedule of expenditures to complete this job by 1956?

General CHORPENING. In fiscal year 1954, $7,287,600.

Mr. FORD. According to your justification, it shows the completion schedule for fiscal year 1956.

General CHORPENING. $7,287,600.

Mr. FORD. What year is that?

General CHORPENING. Fiscal 1954. In fiscal 1955 it is $566,400, and in fiscal 1956, $190,000 to complete.

Mr. FORD. Are the bridges you have completed the ones at the lake end of the river, or did you start at the headwater end of the river?

Colonel MILNE. We started with what was considered the most obstructive, Nos. 25 and 8. The work on these bridges is arranged in the order of priority in relation to their obstructiveness to navigation.

Mr. FORD. What are the companies that benefit by this work?

Colonel MILNE. The three companies that have increased their capacities so tremendously are Jones & Laughlin, Republic, and American Wire & Cable, but every company above the bridges will benefit by being able to maneuver faster.

Mr. FORD. According to the justification, the commerce in 1950 amounted to 18,144,800 tons, consisting principally of iron ore. What percentage of the tonnage would go to the companies you mention? Can you supply that?

Colonel MILNE. I think we can.
General CHORPENING. We will make an effort to get that.
Mr. FORD. I believe that is all.
(The information requested appears as follows:)

CLEVELAND HARBOR, OHIO

Section included.—Outer harbor; Old River and Cuyahoga River from mouth to and including Republic Steel Corp. dock located immediately downstream from Wheeling and Lake Erie Railroad Bridge, 5.8 miles.

Controlling depth.—Main entrance, west basin and between piers, 25 feet; channel in east basin, 23 feet; Cuyahoga and Old Rivers, 21 feet; turning basin upstream from Grasselli Chemical plant dock, 18 feet.

Project depth.—Main entrance, west basin and between piers, 25 feet; channel in east basin and Cuyahoga and Old Rivers, 23 feet; turning basin upstream from Grasselli Chemical plant dock, 18 feet.

Navigation season.—Opened March 13; closed December 23.

Comparative statement of traffic

Year	Tons	Passengers	Year	Tons	Passengers
1941	21,544,142	390,504	1946	16,539,046	186,203
1942	21,963,485	383,611	1947	19,474,463	201,484
1943	20,670,793	284,390	1948	19,200,500	200,124
1944	20,526,477	555,982	1949	16,353,521	173,574
1945	18,656,853	632,253	1950	18,144,789	70,514

Freight traffic, 1950

FOREIGN

IMPORTS, OVERSEAS

	Tons
Animals and animal products, edible: Fish and fish products, otherwise prepared, except shellfish	22
Animals and animal products, inedible: Leather and leather manufacturers	2
Vegetable food products and beverages:	
Vegetables and preparations, n. e. c	11
Fruits and preparations, otherwise prepared and preserved	21
Spices	94
Sugar	2,954
Distilled spirits, malt liquors, and wines	462
Beverages, flavors and sirups, n. e. c	9
Vegetable products, inedible, except fibers and wood:	
Oilseeds, n. e. c	117
Vegetable products, inedible, n. e. c	301
Textile fibers and manufactures:	
Cotton manufactures, and cotton rags and batting	3
Vegetable fiber semimanufactures and manufactures, n. e. c	15
Wool semimanufactures and manufactures	69
Wood and paper:	
Wood manufactures, n. e. c	4
Paper, related products, and manufactures, n. e. c	41
Nonmetallic minerals:	
Building, monumental, and stone manufactures, n. e. c	4
Glass and glass products	19
Clay products, n. e. c	9
Metals and manufactures, except machinery and vehicles:	
Iron and steel ingots, blooms, slabs, and billets	28
Primary iron and steel-mill products	475
Other iron and steel-fabricated basic products	590
Aluminum ore, concentrates, base alloys, and scrap	5,491
Refined copper	225
Nickel and manufactures	417
Other nonferrous ores and products, including precious metals, n. e. c	14

Freight traffic, 1950—Continued

IMPORTS, OVERSEAS—*continued*

	Tons
Machinery and vehicles:	
Machinery and parts, n. e. c., except agricultural	2
Agricultural machinery, implements and parts, including tractors	1
Automobiles, trucks, and busses, excluding parts, accessories, and service equipment	53
Vehicles and parts, n. e. c	4
Chemicals and related products: Industrial chemicals, except sulfuric acid	122
Miscellaneous:	
Commodities, n. e. c	1,211
Articles, the growth, produce or manufacture of the United States, returned	6
Total	12,796

EXPORTS, OVERSEAS

Vegetable food products and beverages: Corn	10
Vegetable products, inedible, except fibers and wood:	
Synthetic rubbers	74
Rubber tires and inner tubes, except S. C. i	45
Rubber tires and inner tubes	30
Rubber manufactures, n. e. c	4
Wood and paper:	
Wood manufactures, n. e. c	2
Paper, related products, and manufactures, n. e. c	70
Nonmetallic minerals:	
Lubricating oils and greases	525
Lubricating oils and greases, except S. C. i	603
Petroleum products, n. e. c	3,688
Clay products, n. e. c	8
Nonmetallic minerals, n. e. c	17
Metals and manufactures, except machinery and vehicles:	
Primary iron and steel mill products	14
Iron and steel manufactures, n. e. c	111
Iron and steel pipe and fittings	9
Copper products and manufactures	3
Brass and bronze manufactures	1
Tin metal and manufactures, including scrap	69
Other nonferrous ores and products, including precious metals, n. e. c	35
Machinery and vehicles:	
Electrical machinery and apparatus	59
Engines, turbines, and parts, n. e. c., except locomotives	24
Construction, excavating, and conveying machinery and parts	625
Mining, well, and pumping machinery, and parts	41
Metalworking machinery and parts	206
Textile, sewing, and shoe machinery, and parts	15
Machinery and parts, n. e. c., except agricultural	195
Agricultural machinery, implements and parts, including tractors, except S. C. i	71
Automobiles, trucks, and busses, excluding parts, accessories, and service equipment	30
Automobile, truck, and bus parts, accessories, and service equipment	503
Chemicals and related products:	
Coal-tar products	2
Medicinal and pharmaceutical preparations	13
Industrial chemicals, except sulfuric acid	4
Pigments, paints, and varnishes	58
Chemical specialties, except chemical specialty, n. e. c	40
Special category items	35
Miscellaneous: Miscellaneous commodities, n. e. c., except S. C. i	456
Total	7,695

Freight traffic, 1950—Continued

IMPORTS, CANADIAN

	Tons
Animals and animal products, edible:	
Fish, fresh or frozen, except shellfish	164
Fish and fish products, otherwise prepared or preserved, except shellfish	11
Wood and paper:	
Woodpulp	4,929
Standard newsprint paper	26,259
Nonmetallic minerals: Sand and gravel, crushed rock, except limestone [1]	97,993
Metals and manufactures, except machinery and vehicles:	
Iron ore and concentrates	317,123
Aluminum ore, concentrates, base alloys, and scrap	3,409
Total	449,888

EXPORTS, CANADIAN

Wood and paper: Paper, related products, and manufactures, n. e. c.	11
Nonmetallic minerals:	
Bituminous coal and lignite	41,058
Coke, except petroleum coke	2,650
Lubricating oils and greases, except S. C. i.	2
Metals and manufactures, except machinery and vehicles: Iron and steel manufactures, n. e. c.	8
Machinery and vehicles:	
Electrical machinery and apparatus	2
Engines, turbines, and parts, n. e. c. except locomotives	1
Construction, excavating, and conveying machinery and parts	55
Mining, well, and pumping machinery, and parts	1
Automobile, truck, and bus parts, accessories, and service equipment	515
Chemicals and related products: Coal-tar products, except S. C. i.	2,729
Miscellaneous:	
Miscellaneous commodities, n. e. c., except S. C. i.	16
Special category items	1,145
Total	48,193

DOMESTIC

LAKEWISE RECEIPTS [2]

Vegetable food products and beverages: Wheat	43,515
Vegetable products, inedible, except fibers and wood: Flaxseed	36,625
Nonmetallic minerals:	
Gas oil and distillate fuel oil	12,193
Petroleum, crude	5,649
Motor fuel and gasoline, including blending agent or antiknock compounds of petroleum origin	492,657
Kerosene	1,430
Residual fuel oil (including bunker oil)	87,732
Lubricating oils and greases	6,657
Petroleum asphalt, including manufactures	2,461
Building cement	80,492
Sulfur	95,415
Limestone	1,888,351
Sand and gravel, crushed rock, except limestone	236,144
Metals and manufactures, except machinery and vehicles:	
Iron ore and concentrates	13,333,410
Pig iron, including sponge iron	9,200
Iron, steel, tinplate, and terneplate scrap and waste	183,337
Iron and steel ingots, blooms, slabs, and billets	65,942
Primary iron and steel mill products	3,122
Other iron and steel fabricated basic products	21,092

[1] Dredged in Canadian waters.
[2] Excludes vehicles, accompanying passengers, ferry traffic: In-bound 1,374; out-bound 1,461.
NOTE.—Information concerning shipments to individual steel companies is not available.

Freight traffic, 1950—Continued

	Tons
Machinery and vehicles: Automobiles, trucks, and busses, excluding parts, accessories, and service equipment	306,382
Total	16,911,806

LAKEWISE SHIPMENTS [2]

Nonmetallic minerals:	
Bituminous coal and lignite	171,622
Coke, except petroleum coke	5,118
Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	25,735
Kerosene	23,223
Metals and manufactures, except machinery and vehicles:	
Pig iron, including sponge iron	96,288
Other iron and steel fabricated basic products	1,736
Machinery and vehicles: Automobiles, trucks, and busses, excluding parts, accessories, and service equipment	183
Total	323,905

LOCAL

Animals and animal products, edible: Fish, fresh or frozen, except shellfish	280
Nonmetallic minerals: Sand and gravel, crushed rock, except limestone	319,126
Metals and manufactures, except machinery and vehicles: Iron, steel, tinplate, and terneplate scrap and waste	100
Total	319,506

INTERNAL SHIPMENTS, VIA ILLINOIS WATERWAY

Nonmetallic minerals: Coke, except petroleum coke	5,410

COASTWISE RECEIPTS, VIA NEW YORK STATE BARGE CANAL, OSWEGO

Nonmetallic minerals: Lubricating oils and greases	481

COASTWISE SHIPMENTS, VIA NEW YORK STATE BARGE CANAL, OSWEGO

Chemicals and related products: Coal-tar produces	1,747

INTERNAL RECEIPTS, VIA NEW YORK STATE BARGE CANAL, TONAWANDA

Nonmetallic minerals: Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	1,879

INTERAL RECEIPTS, VIA NEW YORK STATE BARGE CANAL, OSWEGO

Nonmetallic minerals:	
Gas and distillate fuel oil	1,615
Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	4,605
Residual fuel oil (including bunker oil)	28,277
Chemicals and related products: Coal-tar products	1,783
Total	36,280

[2] Excludes vehicles, accompaning passengers, ferry traffic: In-bound 1,374; out-bound 1,461.

NOTE.—Information concerning shipments to individual steel companies is not available.

Freight traffic, 1950—Continued

INTERNAL SHIPMENTS, VIA NEW YORK STATE BARGE CANAL, OSWEGO

	Tons
Metals and manufactures, except machinery and vehicles: Iron and steel ingots, blooms, slabs, and billets	19,976
Chemicals and related products: Coal-tar products	5,227
Total	25,203
Total, all traffic	18,144,789

Trips and drafts of vessels

Draft (feet)	In-bound [1]				Out-bound [1]			
	Steamers	Motor vessels	Barges	Total	Steamers	Motor vessels	Barges	Total
25	10			10				
24	90			90				
23	146			146				
22	445		1	446	2			2
21	566		6	572	8			8
20	296		1	297	18		1	19
19	63	56		119	49			49
18	40	3	2	45	108	2		110
17	168	4	1	173	847	2		849
16	603	9		612	737	2		739
15	180	66		246	642	10		652
14	118	63		181	146	16		162
13	71	21		92	34	38		72
12 and less	18	2,344	38	2,400	214	2,497	48	2,759
Total	2,814	2,566	49	5,429	2,805	2,567	49	5,421
Total net register tonnage	10,315,638	274,658	81,852	10,672,148	10,278,836	277,614	81,852	10,638,302
Passengers [2]				34,768				35,746

[1] Includes vessels of foreign registry as follows: steamers, 214, net register tonnage, 355,533; motor vessels 39, net register tonnage, 31,056; barges, 6, net register tonnage, 22,107.
[2] Includes passengers in foreign travel, 295.

M'NARY LOCK AND DAM, COLUMBIA RIVER, OREG. AND WASH.

Mr. RABAUT. We will turn to the McNary Dam and lock, Columbia River, Oreg. and Wash. This project has a total estimated Federal cost of $281,650,000; allotments to date are $155,085,000; appropriation for 1952, $42,900,000; and tentative allocation for fiscal 1953, $66,000,000. This project as of the close of 1952 will be 55 percent completed, and the money requested for fiscal year 1953 would bring the completion to 79 percent.

We would like to know what you plan to do with this $66,000,000.

General CHORPENING. McNary Dam and lock is one of the largest projects we have under construction. There is only one larger in total cost, and that is The Dalles. This coming year, fiscal 1953, is the peak year in the construction of McNary, and it will be noted that of the funds requested over one-half will go into the power-producing facilities at this project.

Much has been said—and I do not need to repeat it to any great extent—of the power scarcity in the Northwest and the great requirement for additional electric power on the line. Our present schedule

calls for the first two generating units to be placed in operation by December 1953. The amount of funds we are requesting here is the minimum required to effect power on the line by that date. The remaining units of power will come on at intervals of 3 months, extending through to 1956.

INCREASE IN COSTS

Mr. RABAUT. What is the reason for the increase in the estimated cost?

General CHORPENING. There are a number of reasons, but I would like to refer back to page 187 of the hearings last year, to the statement that Colonel Potter made, where he indicated if we had applied the Engineering News Record cost of construction index each year, we would have increased the cost to $282,000,000 by July 1950. Apparently we should have done so, because our experience in the past year with bids received and with some difficulties we encountered now shows to us that the estimate should be $281,650,000. We believed at that time we could do it for the lesser amount. We have since found we cannot.

Mr. RABAUT. Is this increase due to the application of the principles of the Engineering News index, or is it from actual conditions you have encountered?

General CHORPENING. Part of it is the application of the Engineering News index but not in that fashion. It is unit costs which we have encountered in the past year which indicate to us we should make an increase. Part of the increase shown this year is due to the accelerated schedule we have placed in operation of getting power on the line; part of it is occasioned by the provision of fish facilities during the construction which, due to the accelerated schedule, we had to augment somewhat; part of it is due to some difficulties we have encountered in foundation conditions; and part of it is due to a little difficulty we had on one of the abutments.

Mr. RABAUT. Was the difficulty with one of the abutments something that just happened in the construction, or was it through an engineering error?

General CHORPENING. No, sir. It was encountered as we went along with the construction.

Mr. RABAUT. Last year there was a revision of the fish facilities amounting to an increase of $5.7 million.

General CHORPENING. Yes, sir.

Mr. RABAUT. This year there is an additional increase of approximately $4.8 million. What is the reason for this, and when are you going to reach the saturation point of increased needs?

General CHORPENING. I wish I knew when that was going to be. We had to provide temporary facilities for the passage of the fish during the construction phase. We found that was more expensive than we had anticipated. We also found in our actual provision of the permanent facilities we had to increase what we originally contemplated there.

Mr. RABAUT. Is this current increase caused by a decision of the engineers, or was it brought about by agitation from the Fish and Wildlife Service?

General CHORPENING. I do not think we can make that statement. In the past year the increase we show here has not been occasioned by further pressure from the Fish and Wildlife Service.

Mr. RABAUT. Originally you underestimated, and you increased your estimate to the extent of $5.7 million; did you not?

General CHORPENING. Yes, sir.

Mr. RABAUT. Was that the result of action that you took predicated upon advice from the Fish and Wildlife Service?

General CHORPENING. You are talking about the one we made last year?

Mr. RABAUT. Yes; I am talking about the $5.7 million, and I want to know if there was an error made originally on the $5.7 million and if so whether it is also happening now on the $4.8 million.

General CHORPENING. As to the $5.7 million, whether part of that increase in cost was occasioned by added demands of the Fish and Wildlife Service I do not know.

Mr. RABAUT. Please put a statement in the record on that?

General CHORPENING. Yes, sir.

(This information requested appears on p. 121.)

Mr. RABAUT. In last year's hearing on page 188, under the breakdown of the McNary Dam increase, it says:

> (b) Revisions in design of the fishways required by the United States Fish and Wildlife Service and conservation agencies of the affected States, and minor modifications to meet changed local conditions, resulted in an increase of $5,766,000. The importance of preserving the salmon run on the Columbia River is recognized, and every effort has been made to meet this requirement by providing fish facilities of approved design.

Now, is the $4.8 million in that same category now?

General CHORPENING. No, sir. We cannot lay the $4.8 million on this, or at least the bulk of it, to further requirements or demands by the Fish and Wildlife Service. I do think some of that in connection with the temporary fish facilities might be laid to them, and we had some requirements from them in connection with the installation of a revolving screen for fingerling protection. I do not know exactly what that is, but we did have some request for it. But I think the bulk of the request this year is simply the cost of providing the facilities we had previously agreed on with them.

Mr. RABAUT. We do not want anything said here to be taken that the committee is unfavorable toward or opposed to anything for the preservation of the salmon. But we are face to face with two increases here for fish preservation that really amount to a large sum of money.

General CHORPENING. Yes, sir.

Mr. RABAUT. While I know part of it happened in the past, this is a new increase of $4.8 million, and we have no assurance that there will not be more in the future.

General CHORPENING. I think I should place a statement in the record on that.

Mr. RABAUT. All right.

(The information requested is as follows:)

Statement justifying increases in the estimated costs of fish facilities for McNary lock and dam

Estimated cost of fish facilities from 1953 justification sheet		$19,800,000
Estimated cost of fish facilities from 1952 justification sheet		15,010,000
Difference		4,790,000
The 1952 estimate for fish facilities was based on the following:		
Cost of fish facilities (less engineering)		$14,150,000
Engineering		860,000
Total		15,010,000
The 1953 estimate for fish facilities is based on the 1952 estimate (less engineering) plus cost increases detailed below:		
Cost of fish facilities (1952 estimate, less engineering)		$14,150,000
Temporary fishladders previously constructed proved to be inadequate when put into operation; reconstruction and remedial measures to prevent impending failures resulted in a cost increase of		335,000
Because of change in schedule for raising the pool to elevation 340 from November 1953 to April 1953 in order to give greater assurance for placing power on the line in December 1953, special provision had to be made to provide assurance that the fall run of fish would not be blocked in the event this accelerated schedule would not be met; the increase in cost caused by these provisions for fish passage in 1953 is		275,000
Quantities for rock excavation and reinforced concrete for the Washington shore permanent fishladder were greater than originally estimated and resulted in a cost increase of		650,000
Changed requirements in design of the Oregon shore fishladder, occasioned by unexpected foundation conditions and the requirement of fish interests for the installation of a revolving screen for fingerling protection resulted in a cost increase of		1,550,000
The final design requirements for the dual fish channels in the powerhouse and for the automatic controls, machinery, and electrical installations for all fish facilities at McNary Dam caused an increase over previous estimates of		2,840,000
as follows:		
Increase in unit prices of concrete and steel based on bid prices	$573,000	
Increase in cost of pump house, pumps and motor brought about by change in designed flow from 3,600 to 7,500 cubic feet per second	1,103,000	
Increase in cost of gates, stop logs, and machinery	576,000	
Increase in cost of control equipment	100,000	
Increase in cost of switch gear and installation	188,000	
Tilting and telescoping weirs, picketed leads, etc.	300,000	
Total estimated cost, fish facilities, 1953		19,800,000

RELOCATIONS

Mr. RABAUT. How do you account for the decrease in your relocation cost of $2.3 million after the increase of $11.8 million last year?

General CHORPENING. I do not have this in clear enough detail, but I can make a statement on the record of why that went down.

Mr. RABAUT. What is the present status of relocation?

General CHORPENING. I can give you a detailed statement on that as well.

(The information requested is as follows:)

The toal estimated cost of relocations did not change between the budget estimate prepared for fiscal year 1952 and that prepared for fiscal year 1953. However, in preparing the justification sheet for fiscal year 1952, the estimated cost of relocations was shown as $37,510,000. This estimate included $35,200,000 for relocations, $1,600,000 for engineering pertaining to relocations, and $710,000 for reservoir clearing, a total of $37,510,000. (See p. 780 of the House hearings for 1952.) In preparing the fiscal year 1953 justification sheet, the costs of engineering and reservoir clearing were shown separately, thereby reflecting an estimated cost of only $35,200,000 for relocations.

As of January 1, 1952, relocation work is 68 percent complete. It is anticipated that relocation work will be 76 percent complete by the end of fiscal year 1952.

Mr. RABAUT. What do you plan with reference to the Pacific Fruit Express warehouse and the Northern Pacific Railroad bridge across the Columbia River?

General CHORPENING. I would have to look that up and include it. I understand that the relocations are 65 percent complete as an overall statement on June 30, 1951.

(The information requested is as follows:)

The status of the relocation of the Pacific Fruit Express and of the Northern Pacific Railroad bridge was uncertain at the time the fiscal year 1953 budget estimates were prepared. Subsequent to the submission of the estimates, higher authority has decided that the Northern Pacific Railroad bridge will not be relocated. The status of the Pacific Fruit Express relocation is still undecided. The total estimated cost of relocations ($35,200,000) includes these two items; however, the fiscal year 1953 budget request contains no allocation for these two items. The cost of relocating the Northern Pacific bridge is excluded from the present working estimate for the McNary project.

Mr. RABAUT. Bring up to date the relocation table appearing on page 780 of last year's hearing.

General CHORPENING. Yes, sir.

(The information is as follows:)

Summary of relocations, McNary lock and dam

[Refer to table on p. 780 of House hearings for 1952]

Feature	Mileage	Cost
Spokane, Portland & Seattle R. R.	40.4	$12,845,000
Union Pacific R. R.	20.6	9,181,000
Union Pacific & Northern Pacific (joint)	11.2	1,905,000
Northern Pacific Ry.	2.7	2,995,000
Oregon highways	7.2	1,385,000
Washington highways	20.0	4,112,000
County roads	14.1	598,000
Power lines	20.3	367,000
Pacific Fruit Express warehouse		167,000
Telephone lines	33.0	476,000
Sewer and water lines		[1]
Contingencies and miscellaneous		1,169,000
Total relocations		35,200,000

[1] Included in miscellaneous.

NOTE.—Above estimates are based on revised project estimate of $281,650,000 as of June 30, 1951.

Estimate for Northern Pacific Ry. includes cost of $1,800,000 for relocating Columbia River bridge. Subsequent to submission of fiscal year 1953 budget estimate, higher authority has ruled that this bridge will not be relocated. Current working estimate for McNary project excludes this item.

HOUSING

Mr. DAVIS. Last year in our discussion of the building and grounds item we were told that most of that was for the building of housing and other facilities for the people working on the project. I notice there is well over $1,000,000 for that purpose again this year. I am at a loss to understand the continuation of the building program, as far along as you are in the actual construction of the dam.

General CHORPENING. I do not have here, Mr. Davis, the details of those various parts of that phase of the operation. I can secure it and indicate exactly what we plan to do. I notice in the record last year we furnished information on McNary housing only which, of course, is only a part of the buildings and grounds that will be required for the over-all project.

(Discussion off the record.)

(The information referred to is as follows:)

The $1,330,000 shown on the justification sheet for buildings and grounds includes the following items:

Installation of machinery in new machine shop		$140,000
Permanent electrical distribution system		140,000
Operations of field facilities:		
Townsite operation and maintenance	$375,000	
Navigation facilities, operation and maintenance	175,000	
Fish facilities, operation and maintenance	105,000	
Powerhouse operation and maintenance	360,000	
Levees and pumping plant operation and maintenance	35,000	
Total operations of field facilities		1,050,000
Total buildings and grounds		1,330,000

General CHORPENING. Yes.

POWER

Mr. DAVIS. The over-all power picture in the Northwest keeps cropping up in connection with these individual projects.

Last year I believe we were given an over-all picture for 1955, showing needs in the Northwest of about 7 million kilowatts, and I notice in your justifications here, General, for the 1956 estimate the figure is 9 million kilowatts. What is the source of that change in estimates?

Colonel PAULES. The 7 million kilowatt figure was an earlier estimate of more than a year ago, based on the peacetime requirements. Of course there has been a tremendous expansion of requirements in the Northwest area as well as other areas in the country. The present estimate of the DPA and the Bonneville Power Administration is approximately 9 million kilowatts by the end of 1956. The ultimate capacity in the area is going to be just about sufficient to meet the load requirements in the normal year, up until that time and possibly throughout that time with less than the average water conditions there will be a curtailment of the major load as there was this year for aluminum.

General CHORPENING. As I believe the committee knows, we do not estimate the figures on power.

Mr. DAVIS. I understand. I was just wondering how the figure was reached.

You were planning, last year on flooding a considerable portion of the land. Was that actually done? What is your plan for this year?

General CHORPENING. The plan is, I think, early in 1953 to bring the pool up. Of course, when we closed the river it was brought up somewhat, but actually to bring the pool up to the height required for the production of power, that will be in the spring of 1956.

LAND ACQUISITION

Mr. DAVIS. Has all the land now been acquired for this operation?

General CHORPENING. Forty-five percent of the land acquisition was completed by the 30th of June 1951.

FISHING, COLUMBIA RIVER

Mr. FORD. General Chorpening, what is the figure for 1950 for the value of the fishing industry on the Columbia River? We have the figures from 1939 to 1949 included at page 183 of the last year's hearings. I doubt if you have that information available today, but I think you ought to supply it for the record.

General CHORPENING. We will supply it, if we can obtain the figures from the Fish and Wildlife Service.

Mr. FORD. It would just be a continuation of the chart that we have for last year.

General CHORPENING. Yes.

Mr. FORD. Is there any new directive from the Secretary that would be applicable to the housing facilities that are constructed in the McNary area?

General CHORPENING. I understand that a new directive is expected to be issued in the near future from the Office of the Secretary of Defense or the Secretary of the Army.

PUBLIC-USE FACILITIES

Mr. FORD. What is the $205,000 for public-use facilities?

General CHORPENING. Public-use facilities would be the facilities provided for the use of the public that might be visiting the project. In detail exactly what we are proposing to do with the $205,000 this year I do not know. Obviously here is a great investment of public money and we do try to provide some minimum area that they may see the great project that they have paid for in taxes.

Mr. FORD. What is the schedule of contemplated expenditures for this project?

General CHORPENING. In fiscal year 1954, $22 million. In fiscal year 1955, $18.5 million.

In fiscal year 1956, $14.5 million.

In fiscal year 1957, to complete, $5,565,000. This, as I said earlier, is the big year for the construction, and it drops off very appreciably in future years.

Mr. FORD. What is the benefit-to-cost ratio on this project?

General CHORPENING. It is 1.19 to 1.

Mr. FORD. Do you have information showing how the benefits are divided?

General CHORPENING. Yes. Benefits, average annual benefits are as follows:

Power, $15,611,000; navigation, $1,081,000; irrigation, $306,000; and public use, $61,000.

Percentagewise, that is, power, 91.5 percent; navigation 6.4 percent; irrigation 1.8 percent; public use 0.3 percent.

MONDAY, JANUARY 21, 1952.

THE DALLES LOCK AND DAM, COLUMBIA RIVER, WASH. AND OREG.

Mr. RABAUT. We shall take up this morning The Dalles Lock and Dam, Columbia River, Wash. and Oreg. This is a project with a total estimated Federal cost of $348,372,000. The allotments to date have been $4,800,000. The amount appropriated in 1952 was $4 million and the tentative allocation for fiscal 1953 is $37,500,000. This is a project that is in its early stages.

General CHORPENING. I would like to make a very brief general statement, Mr. Rabaut. The background and the reasons for constructing this project were quite thoroughly discussed last year. Basically there is a need to alleviate a very definite power shortage now and expected in the northwestern part of the country. With the $37,500,000 that is being requested for 1953 we will expect to get under way with various portions of the project as shown in the detailed breakdown on page 111 of the justification. Since last year our definite project studies have been actively pushed. We have completely determined all the principal engineering features of the project and as we visualize it now our schedule will call for the first power unit to be on the line in November 1957.

INCREASE IN ESTIMATED COST

Mr. RABAUT. What is the reason for the increase in the estimated cost?

General CHORPENING. The increase in the estimated cost is slightly over $22 million.

Mr. RABAUT. What is the reason for it?

General CHORPENING. This is occasioned by the over-all increase in costs during the past year which, as I testified to, was 5.8 percent. Also during the past year we have firmed up our estimates. This does not refer just to a straight cost-index figure, but is an actual revision of our unit prices based on our present plans for building the structure.

Mr. RABAUT. Are these your own figures, or are they based on findings of ENR index?

General CHORPENING. It is a combination, sir.

Mr. RABAUT. What is the status of the definite project report?

General CHORPENING. Definite project studies are essentially completed at this time.

Mr. RABAUT. Essentially completed?

General CHORPENING. Yes, sir; they are sufficiently completed so that——

Mr. RABAUT. Is this a normal degree of completion for a project of this kind? When will they finally be completed?

General CHORPENING. No, sir; the definite project studies that go to make up the final definite project report are not entirely completed now. I would say they will be entirely completed sometime during the coming fiscal year.

Mr. RABAUT. What work has been done to date and what else do you plan for the fiscal year 1952?

General CHORPENING. We have carried our planning to the point where we have definitely determined all principal engineering features of the project. We have carried out further model tests. We have advertised for the steel sheet piling, for the cofferdam, and for the powerhouse excavation.

Let me back up a little on that. We have actually procured steel sheet piling and we have advertised for the construction of a steel sheet piling cofferdam. We have likewise prepared specifications and I believe advertised, or are about to, for excavations for the powerhouse.

FISH FACILITIES

Mr. RABAUT. I notice you have an item for "Fish facilities" calling for a $9.5 million increase over last year. What is the reason for this increase?

General CHORPENING. That is a result of further and more definite studies in connection with what will be required to adequately take care of the fish at this location. It contemplates two and a half fish ladders at this point. I believe one elevator likewise is contemplated to take care of the fish.

Mr. RABAUT. What do you mean by two and a half fish ladders?

General CHORPENING. That is just a way of stating it, sir—that is, the half. Actually there are two ladders that carry them up over the dam and then we have a connecting ladder from in front of the powerhouse for those that get into the water in front of the powerhouse, to pull them along, to get them into the main ladder. It is not a full ladder.

INDIAN FISHING RIGHTS

Mr. RABAUT. What provisions have you made to reimburse the Indians for the loss of their fishing rights?

General CHORPENING. I have prepared a statement on that which I would like to read for the record, if I may.

TREATIES

General CHORPENING. By treaties of June 1855 with the United States, the Yakima Nation, Umatilla, and Nez Perce Indians and the Confederated Warm Springs Tribes were secured—

* * * the right of taking fish at usual and accustomed places in common with the citizens of the territory * * *

The rights of the Warm Springs Indians were relinquished by treaty in 1865. The Mid-Columbia Indians are not covered by any treaty of record; however, they claim certain inherent and perpetual rights to fish on the Columbia River. The Yakima, Umatilla, Nez Perce, and Warm Springs Indians have intermarried and these tribes in turn

have intermarried with the Columbia River Indians including the Celilo, Cascade, Klickatat, and Wasco tribes. The descendants of all these tribes have fished for many years at Celilo Falls and other places. The population of the Indian nations and tribes in 1950 was about 7,800.

FISHING SITES AFFECTED BY THE DALLES

Fishing sites of the Indians at Celilo Falls and its vicinity will be affected by construction or will be inundated by The Dalles Reservoir. Investigation by the Fish Commission of Oregon indicated that the number of fishing sites at Celilo Falls and also the number of Indians fishing vary from year to year. In 1948 the Indians maintained 79 stationary platforms and 93 movable dip-net stations and numerous fixed and movable stations were in use in other locations from Big Eddy to Celilo Falls.

USE OF FISHING SITES BY THE INDIANS

From 1 to 10 Indians take fish by dip-net at each of these stations. The Oregon Fish Commission estimated that about 2,000 Indians fish at these sites, taking fish for subsistence and retail sale as fresh food and for sale at commercial canneries. Estimates by other sources indicate that as many as four or five thousand Indians are engaged in or partially dependent on this fishery.

FISH TAKEN BY INDIANS

The catch of the Indians consists of a subsistence catch which is eaten fresh or dried for use out of season, and a commercial catch which is sold to canneries or tourists. The commercial catch is taken entirely in open commercial season established by the States of Oregon and Washington. The subsistence catch is taken largely outside the commercial season. The amount of the commercial catch is much greater than the subsistence catch. The commercial catch can be estimated on the basis of cannery records, plus estimates as to the extent of the catch which is sold fresh to tourists. Cannery records are available for many years and have been made the basis of special studies by the Oregon Fish Commission. The basis for estimating the subsistence catch is a 4-year record of the Oregon Fish Commission and counts of the Fish and Wildlife Service begun in 1950. The best current estimate of these annual catches within the area to be flooded by The Dalles Dam are 345,600 pounds per year for subsistence and 2,001,400 pounds per year for commercial purposes.

DESIRES OF THE INDIANS AND NEGOTIATIONS TO DATE

No formal negotiations have been conducted with the Indians for settlement of their fishery rights; however, the Portland district has held several conferences with prominent Indians, with attorneys for the Indians, and with the members of the Bureau of Indian Affairs, including reservation superintendents. The Portland district has employed Mr. Jasper W. Elliott, former superintendent of the Warm Springs Reservation, to assist in discussions with the Indians and in conducting negotiations.

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ATTITUDES OF THE STATES OF WASHINGTON AND OREGON AND OF THE BUREAU OF INDIAN AFFAIRS

The States of Washington and Oregon recognize the rights of the Indians to fish at the ancient and accustomed places for subsistence at any time. However, commercial fishing by the Indians is limited by the States to the periods of the open commercial season. The Bureau of Indian Affairs has indicated their willingness to cooperate in an advisory capacity, on a strictly nonpartisan basis, in arriving at an equitable solution. They estimate that the Indians now take some 39 percent of the brood fish passing the Bonneville Dam and believe that the elimination of this take would greatly enhance fishery resources in the Columbia River.

TIME AVAILABLE FOR SETTLEMENT

Present construction schedule provides for closure of the river in 1957. Settlement of the Indian problem, therefore, should be consummated before that date.

PROPOSED PROCEDURE TOWARD SETTLEMENT WITH THE INDIANS

The authority to construct the Dalles Dam is considered to be sufficient authority for negotiations to determine an equitable settlement of all Indian claims within the Dalles Reservoir area. The district engineer at Portland will consider any proposal for such a settlement which may be presented by any tribe or tribes.

ANNUAL VALUES OF FISH TAKEN

On the basis of the present information, the estimated annual values of the fish take have varied; that is, the annual values of the fish taken have varied from $475,000 to $650,000. There has been a figure discussed also of $900,000 annually. Even if compensation were made by payment in one lump sum for the annual value of the fish take capitalized at 3 percent over the life of the project it would amount to about $23 million.

Mr. FORD. Using which figure, General?

General CHORPENING. Using the $900,000 figure, the highest figure that has ever been discussed anywhere that we know about. If this charge were added to the present cost of The Dalles project, and the annual charges increased accordingly, it would reduce the benefit cost ratio from 1.26 where it now stands to 1.20.

However, I think it should also be stated that if this were done, it would conserve the fishing resources by permitting additional fish to spawn which are now caught by the Indians and constitute a further conservation benefit to the Columbia River.

Mr. RABAUT. There is some loss always with a dam, isn't there?

General CHORPENING. Some loss; yes, sir.

Mr. KERR. Is there any way to find out what is the value of these fish now, before the dam is built?

General CHORPENING. Yes, sir. As I stated before, Judge, we have reliable figures as to how many pounds of fish the Indians have been taking out of the river each year. I gave those figures up to I think it was 1948 in the statement that I read.

Mr. KERR. Then you have an average value for a number of years?

General CHORPENING. Yes, sir.

Mr. RABAUT. I notice that you quote 1957 as the year for completion. You are going to close the river in 1956 according to the justifications. You have a year's less time in which to settle this problem.

General CHORPENING. I do not know what time of the year we are planning to close, but it was probably figured that the fishing season would have been over by the time we made the closure so that the first year the rights of the Indians would be seriously affected would be 1957.

BASIS FOR INCREASED COST OF FISH FACILITIES

Mr. RABAUT. Returning to the increased cost of $9.5 million for the fish facilities, may the committee regard this as a firm estimate, or will the same thing happen here as did at McNary?

General CHORPENING. I believe the committee may consider this as a firm estimate, because we have had experience now at McNary and that experience has influenced us in putting this figure in at a higher amount.

Mr. RABAUT. What is the basis for this new figure, your own studies or those of the United States Fish and Wildlife Service?

General CHORPENING. Our own studies, always keeping in mind that we do confer with the Fish and Wildlife Service and with the States involved.

RELOCATIONS

Mr. RABAUT. Your relocations have increased from $38,692,000 to $55,430,000. Will you explain this increase in cost?

General CHORPENING. Since last year when we were in the process of working on definite project studies, as I stated to the committee, we have been able more realistically to get into the relocation problem and realizing that the relocations here are extensive, both of railroads and of highways, we have placed that estimate at a point which we believe is absolutely sufficient to do the job.

I was out there recently myself and went over this problem with them and I may say that we are giving most intense study to this and I believe that the figure we have now put in is extremely realistic and one that we can certainly attain.

Mr. RABAUT. Is this new figure taken into consideration in the cost-benefit ratio?

General CHORPENING. Yes, sir. That is included in the over-all estimate.

Mr. RABAUT. What is the status of the negotiations on these relocations?

General CHORPENING. There have been no formal negotiations yet carried out with the railways which represent the largest relocations

here. It is expected that in the near future the district engineer will start such negotiations with the railroads. I would like to add to an answer I made to an earlier question that we are opening bids tomorrow for excavations for the powerhouse.

Mr. RABAUT. Will you furnish for the record a table showing the specific relocations to be made and their cost as contained in the survey document, in 1952 and at present, and the status of the negotiations on each of the relocations?

General CHORPENING. Yes, sir.

(The information requested is as follows:)

Feature of work	Estimated cost		
	Survey document	Fiscal-year-1952 budget request	Present estimate
(a) Union Pacific R. R. (Oregon)	$12,790,000	$14,640,000	$23,323,000
(b) United States Highway No. 30 (Oregon)	3,227,000	3,568,000	6,315,000
(c) Spokane, Portland, Seattle R. R. (Washington)	11,168,000	12,783,000	19,611,000
(d) Oregon Trunk Line switching yards located at Wishram, Wash	3,401,000	3,893,000	3,210,000
(e) Oregon Trunk Line Bridge at Celilo	1,310,000	1,498,000	2,157,000
(f) County roads, power lines, and minor utilities	104,000	118,000	814,000
Total relocations	32,000,000	36,500,000	55,430,000

STATUS OF NEGOTIATIONS

Union Pacific Railway: Informal discussions with the railroad officials. Preliminary draft of agreement prepared but not yet submitted to railway company.

Spokane, Portland & Seattle Railway: Informal contacts only.

Oregon Trunk Railway: Informal contacts only.

United States Highway No. 30: Informal discussions have been held with State highway officials. Drafts of agreement prepared but not yet submitted.

Electric Utilities: Conferences have been held and contract is being prepared.

POWER RATE AND BENEFIT-COST RATIO

Mr. RABAUT. How does the power rate used in your benefit-cost ratio compare to that now being used by the Bonneville Power Administration?

General CHORPENING. Colonel Paules, can you answer that question?

Colonel PAULES. The benefits for this project are on the same basis as that used in the formulation of the benefits for the 308 report on the Columbia River. Basically they are based on a 4.46-mill value at the load centers, including transmission costs. At the present time, studies are under way to revise that benefit figure. Indications are that it will be increased from 4.46 mills to something over 5.5 mills, which would increase the benefits over those shown by some 30 percent or more.

(Discussion off the record.)

Mr. RABAUT. Will you insert in the record a statement on how you determined these rates and the relationship of the rates to the benefit claimed, who sets the rates, and any other pertinent information.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

The power generated at the Bonneville lock and dam is disposed by the Bonneville Power Administration of the Department of the Interior in accordance with the provisions of the Bonneville Act (50 Stat. 731). Power from additional projects of the Corps of Engineers in the North Pacific area will also be disposed of by the Bonneville Power Administration in accordance with the Bonneville Act and section 5 of the Flood Control Act approved December 22, 1944 (58 Stat. 887). Those acts provide that the rate schedules shall be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electric facilities of the projects) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years. The rate schedules are determined by the Bonneville Power Administration and, in accordance with the acts referred to above, become effective upon confirmation and approval by the Federal Power Commission.

Rate schedules now in effect have been designed to repay expenses of operation and maintenance, construction costs allocated to power, and interest on the power investment. Repayment of the power investment will be within a 50-year period.

The present basic wholesale rate for the sale of power from Federal projects in the Columbia River system is $17.50 per kilowatt-year. This rate has been sufficient to return all costs chargeable to power. Relative to possible increases in this rate, the following is quoted from a report by the Bonneville Power Administration entitled "Advance Program of Transmission System Development, July 1950–June 1956," dated January 1950:

"The above results will have been achieved on the basis of the present basic $17.50 per kilowatt-year wholesale rate. However, with the advent of new dams build during periods of high costs of operation and construction, it may become necessary to increase the wholesale rate. The general contract provisions forming a part of the Administration's wholesale power contracts provide that December 20, 1944, and December 20 of each fifth year thereafter shall be "rate-adjustment dates." Studies on this problem have shown that rates now in effect will supply sufficient revenues in the aggregate through fiscal year 1955 to provide for payout requirements. In addition, there will be a net surplus each year in the certified financial statements. It has therefore been decided that the present rates in contracts now in force will remain unchanged until the next rate adjustment date, December 20, 1954.

"The Corps of Engineers' Review Report on the Columbia River and Tributaries of October 1, 1948, contains plans for the construction of a series of multipurpose projects and the installation of hydroelectric generating capacity. The matter of power rates is discussed in the report and it is concluded that, even considering present high construction costs, power could be provided for distribution, on a system-wide basis of fixing rates, at an average wholesale rate of around $21 or $22 per kilowatt-year.

"This wholesale rate would produce funds sufficient to repay within the period of time provided by the existing laws covering these projects all costs of construction and operation allocated to power plus a substantial subsidy to irrigation.

"Preliminary studies by the Administration, based upon latest available cost estimates and assumed allocations of cost, indicate that an average wholesale rate in the vicinity of $22.50 per kilowatt-year should be adequate to meet the financial requirements of a system including all presently existing and authorized projects in the United States Columbia River power system."

SCHEDULE OF CONTRACTS

Mr. RABAUT. What is your schedule for letting contracts in 1953?

General CHORENING. As I stated before, we have already procured steel-sheet piling for the powerhouse structure; let contracts for it. We are opening bids on the excavation of the cofferdam and powerhouse tomorrow.

We expect to open bids on the turbines and governors in April of this year, and then in the fiscal year 1953 we expect to get started

on the relocations of the railroads in August and September. We expect to get started on the county roads and the telephone company relocations in July and August, respectively, of this year.

We will start on phase 1 of powerhouse construction in January of 1953. We expect to get started on the navigation lock in September of 1952. We expect to get started on the administration building and warehouse in September of 1952.

Mr. RABAUT. That is a good statement of expectancy. We have 99 percent of expectancy, but only 1 percent will have been done at the end of 1952. The money requested for the fiscal year 1953 will bring that up to 12 percent.

What are the specific benefits to be derived from this project?

General CHORPENING The specific benefits are, of course, primarily power and also navigation. In dollars, we now estimate that the annual benefits are: Power, $20,520,000; navigation, $993,800; irrigation, $13,000; public use, $44,500, or a total of $21,571,300 annual benefits from the project.

NAVIGATION BENEFITS

Mr. RABAUT. Are the navigation benefits contingent upon the completion of any other project?

General CHORPENING. To some extent, yes, sir.

Mr. RABAUT. To what extent?

General CHORPENING. The navigation part of the project extends on up the river through the John Day Dam, which is authorized, and the McNary Dam, under construction. Until such time as the John Day Dam is completed with the lock therein and the McNary Dam, only partial benefits will accure.

When those projects are completed, full benefits will accrue on the navigation phase.

Mr. RABAUT. So, considerably more money has to be expended before the navigation benefits will be what you claim them to be.

General CHORPENING. Yes, sir, to get the full benefits that I have stated here, $993,800 annually.

COLUMBIA BASIN POWER SITUATION

Mr. DAVIS. I wonder if we could not get an over-all picture of this Columbia Basin power situation. As I understand it, we have a considerable amount of private power available; we have some municipal power, and there is some Government power available. To your knowledge, are there figures available that would show the plans of each of those three entities in the development of power in this basin?

General CHORPENING. Yes, sir; they are available. Are they sufficiently available so you can make a statement on the matter, Colonel Paules?

Colonel PAULES. I can give some approximate figures. The best figures are given in the annual program put out by the Bonneville Power Administration, which gives complete figures for the plans of all agencies, including private development in the area, both what they have installed now and what they are planning to install.

Mr. DAVIS. How far in the future have they been projected?

Colonel PAULES. It is projected up through about 1958, I think. At the present time it is roughly half-and-half private development and Federal development in the area, a total of about 4,700,000 kilowatts presently installed. The schedule is for installation by 1957 of about 9 million kilowatts, of which at that time about 5 million will be Federal and 4 million non-Federal.

Mr. DAVIS. Do you attach any significance to the fact that the over-all construction program will reach about 9 million kilowatts at that time and that the estimated needs have been increased to approximately that figure?

Colonel PAULES. For quite a considerable period, Mr. Davis, the power used in that area has been limited to what is available. They have been seriously restricted in the taking on of any increased industrial loads. In this last year, even though they did not have below-normal water, it was necessary to curtail, for a short period, as you may recall, some of the aluminum which is being produced. If there is less than normal water, very serious curtailment of aluminum and other defense loads will be required in that area, and that is expected to remain the situation for a number of years. This power installation which is scheduled out there is a program which it is hoped will correct that situation.

General CHORPENING. And a program which is, of course, tied into the over-all plans of the NPA for new aluminum plants and other defense installations.

(The following was submitted later:)

Power resources, Pacific Northwest, Oregon, Washington, Idaho, western Montana, median hydroelectric conditions

Source	Agency	Status	Fiscal year 1952		Fiscal year 1953		Fiscal year 1954		Fiscal year 1955		Fiscal year 1956		Fiscal year 1957		Fiscal year 1958	
			Cap. MW	Gen. MWH	Cap. MW	Gen. MWH	Cap. MW	Gen. MWH	Cap. MW	Gen. MWH	Cap. MW	Gen. MWH	Cap. MW	Gen. MWH	Cap. MW	Gen. MWH
Non-Federal (public and private)[1]			2,400	16,100,000	3,200	17,500,000	3,300	21,000,000	3,400	21,400,000	3,450	19,000,000	3,450	19,000,000	3,450	19,000,000
Federal [2]																
Bonneville, Oreg	Army	C	518	4,350,000	518	4,500,000	518	4,580,000	518	4,580,000	518	4,650,000	518	4,650,000	518	4,930,000
Grand Coulee, Wash	Bu. Rec	C	1,944	11,800,000	1,944	12,650,000	1,944	13,500,000	1,944	13,900,000	1,944	13,650,000	1,944	13,700,000	1,944	13,850,000
Albeni Falls, Idaho	Army	UC							43	96,000	43	185,000	43	185,000	43	185,000
Hungry Horse, Mont	Bu. Rec	UC			143	320,000	285	480,000	285	1,200,000	285	1,200,000	285	1,200,000	285	1,200,000
Detroit, Oreg	Army	UC			50	250,000	100	250,000	100	250,000	100	250,000	100	250,000	100	250,000
Big Cliff, Oreg	do	UC					18	60,000	18	90,000	18	90,000	18	90,000	18	90,000
McNary, Oreg.-Wash	do	UC					280	800,000	500	3,500,000	840	5,600,000	980	5,700,000	980	6,200,000
Lookout Point (Meridian), Oreg.	do	UC					76	190,000	114	250,000	114	250,000	114	250,000	114	250,000
Dexter, Oreg	do	UC							15	61,000	15	90,000	15	90,000	15	90,000
Roza, Wash	Bu. Rec	A							10		10	60,000	10	60,000	10	60,000
Chandler, Wash	do	A									12	50,000	12	100,000	12	100,000
Chief Joseph, Wash	Army	UC									384	1,360,000	640	4,350,000	896	6,400,000
Ice Harbor, Wash	do	A											195	650,000	200	2,100,000
Hells Canyon, Wash.-Idaho.	Bu. Rec	NA													300	1,100,000
Hills Creek, Oreg	Army	A													20	70,000
The Dalles, Oreg.-Wash	do	UC													312	1,200,000
Lower Monumental, Wash.	do	A														
Little Goose, Wash	do	A														
Libby, Mont	do	A														
Lower Granite, Wash	do	A														
UPPER SNAKE BASIN																
Br. minor projects, Washington, Idaho.[3]		C	72	61,000	72	122,000	72	294,000	72	294,000	72	294,000	72	294,000	72	294,00
Palisades, Idaho	Bu. Rec	A									29		114	220,000	114	220,000
Upper Scriver, Idaho	do	NA											38	220,000	38	270,000
Lower Scriver, Idaho	do	NA											60	420,000	60	460,000
American Falls, Idaho	do	A									30		30		30	
Federal projects, subtotal		C	2,534	16,211,000	2,534	17,272,000	2,534	18,374,000	2,534	18,774,000	2,534	18,594,000	2,534	18,644,000	2,534	19,074,000
Subtotal		UC			193	570,000	759	1,780,000	1,135	5,447,000	1,799	9,025,000	2,195	12,115,000	2,763	15,865,000
Do		A							10		81	110,000	361	1,030,000	446	2,550,000
Do		NA											98	640,000	398	1,830,000

Total Federal			2,534	16,211,000	2,727	17,842,000	3,293	20,154,000	3,679	24,221,000	4,414	27,729,000	5,188	32,429,000	6,141	39,319,000
Grand total			4,934	32,311,000	5,927	35,342,000	6,593	41,154,000	7,079	45,621,000	7,864	46,729,000	8,638	51,429,000	9,591	58,319,000
Total generation under minimum hydroelectric conditions				26,200,000		30,500,000		[3]36,650,000		41,600,000		42,720,000		47,260,000		53,500,000

[1] Private and public utility figures are estimated on basis of known and planned projects.

[2] This tabulation is based on generation schedule U. Project generation of energy is based on median or better water conditions. The MWH figures are calculated on an annual basis using the average capability of the plants during the draw-down period. These calculations therefore represent the average usable energy during a median hydro year. Variations of stream flow within the region can cause considerable variation between these figures.

[3] Includes Boise Diversion, Black Canyon, and Minidoka projects.

Legend: MW—Installed capacity, megawatts. MWH—Average energy, megawatt-hours C—Constructed. UC—Under construction. A—Authorized NA—Not authorized

VARIATIONS IN FACTORS IN COMPUTING BENEFIT-TO-COST RATIO

Mr. DAVIS. In our previous discussion on this benefit-to-cost ratio which I believe is computed in the justifications at 1.26 to 1, there seem to be a number of factors which are subject to variation. For instance, some of the relocations—the costs chargeable to The Dalles will be determined somewhat by whether or not John Day is built. Then you have projected the anticipated revenue into the future, while your estimated over-all cost of construction is based on a current-day price.

Variations among those figures could bring that benefit-to-cost ratio down fairly close to unity. Do the benefit-to-cost ratios on projects such as this take into consideration the fact that the United States Government is going to be furnishing the money and paying interest on it, not only during the time of construction, but until Uncle Sam has been fully repaid for its investment?

General CHORPENING. Yes, sir. In determining the annual charges for the project, we include charges which will amortize the project on a 50-year life basis.

Mr. DAVIS. Including interest on the investment?

General CHORPENING. Yes sir, at 3 percent interest. That is the way we figure the annual charges on all of our projects. At the present time the 3 percent is a little bit more than the United States Government has to pay for money.

LENGTH OF NAVIGATION IMPROVEMENT

Mr. DAVIS. How long a stretch on the river is included in this controversy over Indian fishing rights?

General CHORPENING. It is about 17 miles.

Mr. DAVIS. This is the only Columbia River project within that stretch of the river?

General CHORPENING. Yes, sir.

Mr. DAVIS. I am at a little loss to understand the probable navigation benefits of almost $1 million, in view of the fact that only about 25 miles of the river would have the navigation facilities improved by this dam.

General CHORPENING. That is true; that is, this dam would only improve the navigation facilities on the river a number of miles—some 25 miles, but the John Day Dam built above will also have a lock which will put the navigation further up, and then above that will be other dams with locks, which are part of an authorized comprehensive navigation system. The navigation benefits are figured on the basis of all navigation being in place. It is similar to the other navigation projects that we have discussed.

There will be some benefits, just from the construction of The Dalles Dam by itself; that will put navigation up 25 miles, but that will not be the full amount of navigation benefits that we are estimating.

And it might be stated further that if at this time we did not take credit for the navigation benefits, the cost-benefit ratio would, I believe, still be considerably above unity.

Mr. DAVIS. In order that we may understand a little better this navigation benefit, will you insert in the record at this point a state-

ment showing the method by which the proposed navigation benefits were determined.

General CHORPENING. Yes, sir.

Mr. DAVIS. I ask you to do that in order to clearly understand whether or not the prophecy with respect to the development of this area, the increase in population of this area, were reasonably taken into consideration in working out the proper benefits.

General CHORPENING. We will put a statement in the record covering that.

(The information requested follows:)

Irrigation development and other growth in the general area would be necessary to a limited extent only in realizing the projected navigation benefits for the Columbia River development and would be applicable mostly to general commodities and petroleum products. The normal development of upstream river areas both through irrigation and natural growth of population and economic developments will increase the tonnage on the main stem of the Columbia River and such increased development and resultant tonnage have been taken into account in estimating the projected commerce at the end of 50 years.

Potential commerce on the waterway to be provided by the eight dams on the Columbia and Snake Rivers and the open-river improvement on Snake River upstream from Lewiston, Idaho, will develop primarily as a result of the changes brought about in extending economical barge navigation from the mouth of Columbia River to Lime Point, Idaho, 495 miles from the Pacific Ocean and 405 miles upstream from Portland, Oreg. Inasmuch as project costs are considered as the incremental cost of slack-water improvements from the head of Bonneville pool to Lime Point, navigation benefits are considered on the same basis, i. e., in addition to the potential benefits creditable to the present waterway from the head of Bonneville pool to Pasco, Wash. On Snake River, where authorized navigation improvements have not been constructed, the benefits are incremental over the cheapest alternate source of transportation.

Extension of a high-class major artery of transportation into competitive territory and into heretofore inaccessible territory possessing considerable tonnage potential necessitates recognition of two basic types of direct savings to producers and consumers. Savings due to reduction in the cost of transportation are called transportation savings. Savings due to the opening up of new sources of supply or resulting from radical changes in markets or marketing methods are called production and marketing benefits.

A detailed study was made of the cost of barge transportation over the improved waterway and unit transportation savings calculated for the various commodities expected to move up or down the rivers between the seaports of Portland, Vancouver, and Longview, and various interior points where transfer to or from water transportation might be anticipated. Very little local or interpool commerce is expected to develop.

Careful analysis was made of the area tributary to the Columbia-Snake River slack-water navigation improvement, and an estimate prepared of the potential tonnage of goods available for shipment out of or into the area. The goods moving downstream consisted, to a large degree, of products of the farms, forests, and mines; those moving upstream were mostly processed or manufactured products. The freight rate differentials between shipment by barge up or down the Columbia-Snake River waterway and shipment by other means to or from logical markets and sources of supply, such as Puget Sound ports or centers of manufacture or consumption in the Missouri River Valley were considered.

Estimates were prepared of the portion of the total potential commerce developed in the tributary area which would move over the Columbia-Snake River waterway. To this tonnage the unit transportation savings were applied, giving the total estimated transportation savings and the origin or destination of the commodities moved.

Production and marketing benefits accruing to farmers and others through improved marketing practices made possible by cheap mass water transportation of farm products and reduced cost of production of both agricultural and manufactured goods resulting from a more economical source of lime rock were added, to arrive at the total annual system navigation benefit.

These data were worked out for conditions of development and population expected to exist at the time the Columbia-Snake River waterway would be com-

pleted and for conditions anticipated 50 years thereafter and an average annual system navigation benefit arrived at therefrom.

The total estimated average annual system navigation benefit was distributed by a rational method, described in detail and illustrated in Appendix M, House Document No. 531, Eighty-first Congress, and the average annual share of the system benefit creditable to The Dalles Dam was found to be $993,800.

STATES' AGREEMENT ON PLAN

Mr. DAVIS. Last year we had some controversy on whether the States had or had not agreed to plans with respect to the fish protection. It was thought they had, at the time of the hearing, but before the hearings closed we had communications from conservation agencies in both States protesting against the plans. Has there been any change in that situation during the last year?

General CHORPENING. Well, as far as I know at this time what we are proposing to take care of the fish runs in the way of ladder facilities are generally acceptable to all agencies concerned. I cannot state that everybody is 100 percent happy. However, the very successful operation of fish ladders at Bonneville over a period of years, I think has pretty well eliminated any skepticism as to whether fish will go up ladders or not. The fish did not seem to like the elevators very well.

RAILROAD RELOCATION

Mr. DAVIS. The amount involved in the estimate for railroad relocation is large. What can you tell us about the firmness of that estimate, since apparently the railroads have not gone along with the negotiations as yet?

General CHORPENING. I can say this: We have considered a number of alternative plans on the relocation as to the grades that might be established. In the presentation of this estimate we have made it sufficiently large, I think, to cover the worst possible condition that might exist, so that if a somewhat lesser cost arrangement can be successfully worked out, then we will be able to come in with a better estimate, but I wanted to be as certain, as we could at this time, that we would have a realistic estimate on the high side.

BENEFITS OF LOCK AND DAM

Mr. FORD. General Chorpening, last year on page 194 of the hearings the annual benefits of the Dalles project were figured as follows: Power, $20,520,000; irrigation, $13,000; navigation, $993,800; public use, $46,000. Broken down further by percentages, 95.13 percent for power; 4.6 percent for navigation.

Earlier in your testimony today you gave some revised figures. Could you read those to us again?

General CHORPENING. Yes. Power is the same. Irrigation is the same; navigation is the same. Public use is $1,500 less than last year.

Mr. FORD. How do you account for a lesser benefit from the point of view of public use?

General CHORPENING. A later evaluation of it; that gets it down mighty fine, to be $1,500 less, I admit, but it must be a later evaluation.

Mr. FORD. It is getting it down pretty fine.

General CHORPENING. Yes, sir.

NAVIGATION BENEFITS CONSIDERED

Mr. FORD. In figuring the navigation benefits, are they figured on the completion of the John Day and other dams further up the river?

General CHORPENING. Yes, sir.

Mr. FORD. In other words, if the John Day and the other projects are not completed, there will be a material reduction in the annual benefits, navigation-wise, for The Dalles?

General CHORPENING. That is correct.

Mr. FORD. In figuring the cost for the construction at The Dalles, are you figuring all of the relocation costs, including those that logically should be charged off to John Day?

General CHORPENING. Yes.

Mr. FORD. Can you give us a chart showing how much of the total relocation for this project, including the portion that might be chargeable to the John Day, so we can determine whether we are appropriating for John Day and The Dalles or just for The Dalles, excluding John Day?

General CHORPENING. Yes; we will supply a complete statement on that.

(The information requested follows:)

None of the John Day project relocations costs are included in the estimated costs for relocations as contained in the justification sheet for The Dalles project nor in the total project cost estimate for the latter project, and none is considered necessary at this time.

VARIATIONS AFFECTING COST-BENEFIT RATIO

Mr. FORD. According to the figures, the benefit to cost ratio at the time of the authorization was 1.25 to 1; last year in the justifications the benefit to cost ratio was 1.29, and according to this year's justification, it is 1.26. Earlier today there was testimony that if we included the maximum possible cost for fishing rights and related matters, the benefit to cost ratio will further decrease to 1.20.

Can you give us some explanation of the variations that have taken place?

General CHORPENING. The cost-benefit ratio of 1.29 testified to last year was based on the estimated cost at that time of $326 million-plus.

The cost-benefit ratio of 1.26 this year is based on the present estimated cost, which is larger.

Mr. FORD. In other words, as the estimated costs go up there is no comparable increase in the benefit to cost ratio?

General CHORPENING. There will be a decrease in the cost-benefit ratio when the estimated costs go up, if at the same there is no upward revision of benefits. In this case, as we just brought out,

there is a further study now being made on power benefits, which might indicate a greater power benefit than we are now claiming.

PREVIOUS ESTIMATED COSTS

Mr. FORD. What was the estimated cost last year; $326,356,000?

General CHORPENING. That is correct.

Mr. FORD. And this year?

Mr. BOUSQUET. The estimated cost last year was $326,356,000; and this year it is $348,372,000.

Mr. FORD. In other words, that much increase in cost has brought a rather surprisingly high decrease in the benefits?

General CHORPENING. Only a matter of three-one hundredths.

Mr. FORD. Yes; but the original cost figure, in the authorization, was $286,286,000. Now it is up to $348,372,000, in a period of 3 years, or thereabouts. If the costs go up even more, as they might well do, according to historical data, we might look for the benefits to get down to unity?

General CHORPENING. I would suppose that if costs continue to increase on construction, that sometime along the line the cost of electric power is going to go up likewise.

Mr. FORD. How certain can we be that the appropriate agency for determination is going to increase power benefits?

General CHORPENING. I would think that they would.

Mr. FORD. They certainly should.

General CHORPENING. Or could be required by the Congress, because for a certainty the over-all cost of everything else in this connection has gone up, and electric power rates must go up likewise. I believe that by law the rate must be established so that cost of power will be repaid.

CONTINUING CONTRACTS

Mr. FORD. During this fiscal year you are signing how many continuing contracts?

Mr. BOUSQUET. In 1952 we are starting a continuing contract for steel sheet piling this month; a continuing contract for the construction of the cofferdam and for powerhouse excavation in February; and a continuing contract for turbine and generators in April.

Did you want the contracts for 1953?

Mr. FORD. No; fiscal 1952.

Mr. BOUSQUET. Those are are all for fiscal year 1952.

FIRMNESS OF CONTRACTS

Mr. FORD. When you sign a contract, which I understand is on a bid basis, are they firm, not only for this fiscal year, but continuing fiscal years?

General CHORPENING. Yes, sir.

Mr. FORD. In other words, the contractor cannot be compensated for any increase in costs that he might have in the construction of a part of the project or portion of the construction?

General CHORPENING. They are undertaken on a unit price basis; however for construction of turbines and generators we do include

escalation clauses, which are limited as to the period and as to the over-all costs that may rise. We have an escalator clause in those contracts. Those contracts which cover electrical equipment are the only type of contracts that are not on a firm bid unit price basis.

Mr. FORD. How can you justify the escalator clause in these contracts?

General CHORPENING. We can justify them, and I might say with respect to the escalator clause—that it is not just one way; if the prices go down, as could happen, it works the other way.

But that is the only way that the electrical industry will bid either on private or public contracts. It is on a longer term proposition. When we enter these contracts the work may run 3, 4, or 5 years and the hazards are so great that the industry will not bid unless there is an esculator provision included in our proposal.

Mr. FORD. Can you put in the record a copy of those clauses?

General CHORPENING. Yes, sir.

Mr. FORD. That are included in such contracts.

General CHORPENING. Yes, sir.

Mr. FORD. Will those clauses spell out definitely the manner in which the contract operates, whether up or downward?

General CHORPENING. Yes, sir.

(The information requested follows:)

ESCALATOR CLAUSE FOR ELECTRICAL EQUIPMENT

If at the time of shipment of the equipment, or each complete unit thereof, the Contractor's applicable established price for such equipment is higher or lower than the Contractor's applicable established price at the date of his bid, the Contractor shall certify the percent increase or percent decrease to the Contracting Officer and the contract price will be adjusted accordingly: *Provided, however*, That in no event shall the price paid for the equipment exceed the bid price by more than — percent (10 percent where shipment is specified within 18 months, 20 percent where shipment is specified within 18 to 36 months, and 30 percent where shipment is specified in excess of 36 months) unless the work is suspended as provided for under Article —, Suspension of Performance. The price paid for the equipment will in no case exceed the applicable OPS ceiling in effect on the date of the shipment.

ADJUSTMENT OF PRICES FOR LABOR AND MATERIAL FOR HYDRAULIC TURBINES

(*a*) The following terms used hereafter are defined as follows:

(1) "Basic hourly earnings index" shall be determined by adding monthly average straight time hourly earnings index in the hydraulic turbine industry as determined by the Bureau of Labor Statistics, United States Department of Labor, for the month in which contract time commences, the month preceding such month, and the month succeeding such month; and dividing this total by three.

(2) "Basic materials index" shall be determined by method in (1) above using monthly indices for item "Average prices of materials for hydraulic turbine industry" as determined by the Bureau of Labor Statistics, United States Department of Labor.

(3) "Monthly labor adjustment index" shall be the average straight-time hourly earnings index for the month under consideration, identified as to source in (1) above.

(4) "Monthly materials adjustment index" shall be the index for the month under consideration identified as to source in (2) above.

(5) Above contract indices in (1) and (2) shall be computed to nearest second decimal place, taking decimal point as located in indices issued by the United States Department of Labor. When the third decimal place is 5 or more, the figure in the second decimal place shall be raised to next higher figure.

(*b*) (1) The proportion of the contract price represented by labor, subject to adjustment in price, is accepted as 45 percent of the contract price.

(2) The proportion of the contract price represented by materials, subject to adjustment in price is accepted as 40 percent of the contract price.

(*c*) The estimates of earnings submitted by the contractor and approved, and upon which payment is made by the contracting officer, shall be used as the basis for adjustments in payments. The total amount earned by the contractor for work performed in any one month shall be the basic unit upon which adjustments in payments are to be made. The proportionate amounts of such total monthly earnings as determined by use of percentages in (*b*) (1) and (2) above shall be used for labor and material adjustments, and are hereinafter referred to as "monthly adjustment amounts." Adjustments will be based upon approved earnings and not upon actual payments.

(*d*) Adjustments in payments shall be obtained for each monthly adjustment amount as follows: Multiply monthly adjustment amount by the appropriate monthly adjustment index, divide by corresponding basic index and subtract monthly adjustment amount.

(*e*) Adjustment payments or deductions resulting from the operation of this article, will be made after completion of the contract. The Government may, from time to time during the life of the contract, make partial payments on account of any increases, subject to such requirements as a condition precedent to these payments as the contracting officer may prescribe: *Provided further*, That in the event such partial payments shall exceed the amount due the contractor by the operations of this article, the Government shall deduct the amount of such excesses from any further payments due under the contract. In case the final adjustment in the contract price results in a net deduction from the contract price, the contractor and his sureties shall be liable for the amount thereof until it is refunded to the Government.

(*f*) When payment obligations under the contract exceed the contract price as a result of increases in labor and/or material costs to the extent that available appropriations are exhausted, the Government reserves the right, without further liability, to suspend work under the contract for the account of the Government or to terminate the contract on payment of contractual obligations incurred up to the point of termination.

(*g*) If the indices referred to above are discontinued or become otherwise unavailable the contracting officer and the contractor shall agree upon another index or indices or another method of price adjustment which, in their opinion, will result in an equitable adjustment of the contract price.

(The information is as follows:)

Mr. FORD. Can you also include in the record several examples of where there has been an escalation upward and examples where the escalation has been downward?

General CHORPENING. I would doubt that there have been in the category any projects, because prices have been going up all the while since we have been using them. We will cite examples, if we have them, and I believe there must have been some.

Item: Service turbine, Allatoona, Ga.
Main contractor: James Leffel Co.
Contract No. W-569-eng-4807
Date of original contract: October 27, 1942
Date started: January 29, 1946
Date completed: March 3, 1950
Original amount of contract: $41,651
Amount of increase due to escalation: $8,439.76
Percentage of escalation: 20.3

Item: Main turbine, Allatoona, Ga.
Main contractor: S. Morgan Smith Co.
Contract No. W-569-eng-4120
Date of original contract: July 15, 1942
Date started: January 20, 1946
Date completed: October 1, 1950
Original amount of contract: $662,772
Amount of increase due to escalation: $182,544.80
Percentage of escalation: 27.5

Item: Main generator, Allatoona, Ga.
Main contractor: Westinghouse Electric Co.
Contract No. W-569-eng-4684
Date of original contract: January 8, 1943
Date started: February 4, 1946
Date completed: February 20, 1951
Original amount of contract: $810,245
Amount of increase due to escalation: $224,036.61
Percentage of escalation: 27.6
Item: Second main turbine, Norfolk Dam
Contractor: S. Morgan Smith
Contract No. W-777-eng-1276
Contract date: 1941
Starting date: April 1946
Completion date: June 1949
Original amount of contract: $253,102
Escalation amount: $64,468
Escalation amount percent: 25.5
Item: Turbine, Center Hill Dam
Contractor: S. Morgan Smith
Contract No. DA-40-058-eng-1307
Contract date: June 17, 1948
Completion date: May 31, 1951
Original amount of contract: $24,815
Escalation amount: $1,277
Escalation amount percent: 5.1
Item: Transformers, Center Hill Dam
Contractor: General Electric Co.
Contract No. DA-40-058-eng-689
Contract Date: June 14, 1948
Completion date: November 26, 1951
Contract amount (original): $148,447
Escalation amount: $29,689
Escalation amount percent: 20.0
Item: Main governor, Fort Gibson Dam
Contractor: Woodward Governor Co.
Contract No. W-34-066-eng-2246
Contract date: June 21, 1949
Completion date: January 13, 1951
Original amount of contract: $117,943
Escalation amount: $28,212
Escalation amount percent: 9.0
Item: Second main generator, Norfolk Dam
Contractor: Westinghouse Electric Co.
Contract No. W-03-050-eng-402
Contract date: June 21, 1946
Completion date: June 8, 1950
Original amount of contract: $413,380
Original amount: $55,505
Escalation amount percent: 13.5

Mr. FORD. How long have these particular provisions been in effect?

General CHORPENING. I think they have been in effect ever since the last war.

Mr. FORD. Since the end of World War II?

General CHORPENING. During and since World War II. I want to check that statement for the record.

POWER PRINCIPAL JUSTIFICATION

Mr. FORD. The principal justification for this project, certainly at the present time, is the additional power?

General CHORPENING. That is correct.

Mr. FORD. Why should not all benefits, therefore, be charged off to power?

General CHORPENING. Well, we are going to build a navigation lock in the dam, and certainly the potentials are there for benefits from navigation. I do not believe it would be realistic to charge power only with all the costs. As I said before, even if we did take power as the one benefit neglecting navigation, irrigation, and public use, the project at the estimated cost we now have with the estimated annual benefits from power would still be justified.

Mr. FORD. Assuming that is true, and I do not doubt it, why not be realistic and derive from the operation the maximum revenue that the Government can get, which would be possible if you charged the whole project off to power.

General CHORPENING. The project is authorized for navigation; it is going to be built with navigation facilities. There is in existence navigation on the river; we drown it out with the project, and when the project is completed there will be some tonnage—and I can furnish the figures for the record—that will use the lock even though we do not proceed in the immediate future with the construction of John Day and other projects.

NAVIGATION ON RIVER

Mr. FORD. On page 205 of the hearings last year a chart was included showing the navigation on the river. Will you extend that chart for the next year?

General CHORPENING. Yes, sir.

Mr. FORD. Also include in the chart a breakdown of the type of navigation; in other words, just take those figures in last year's hearings and extend them.

General CHORPENING. Yes, sir; that will be for the year 1950.

(The table requested follows:)

COLUMBIA RIVER, VANCOUVER, WASH., TO THE DALLES, OREG.

Comparative statement of traffic

Year	Vessel traffic	Rafted	Through traffic	Total	Passengers
	Tons	*Tons*	*Tons*	*Tons*	
1941	1,036,544	1,021,267	392,890	2,450,701	376
1942	1,186,528	919,567	323,338	2,429,433	46
1943	887,189	956,130	437,483	2,280,802	
1944	591,517	917,529	558,989	2,068,035	128
1945	567,409	849,105	598,980	2,015,494	301
1946	977,212	848,527	744,352	2,570,091	665
1947	929,070	1,075,631	804,572	2,809,273	22
1948	925,689	1,061,509	696,910	2,684,108	
1949	1,135,545	998,507	900,246	3,034,298	
1950	1,075,627	937,140	832,535	2,845,302	

Additional traffic

Year	General ferry			Year	General ferry		
	Tons	Vehicles	Passengers		Tons	Vehicles	Passengers
1941		119,719	166,766	1946		241,338	507,751
1942		120,066	196,920	1947	73	257,971	713,076
1943		100,014	55,394	1948	28	118,504	817,729
1944		107,363	139,745	1949		220,600	629,446
1945		167,337	202,662	1950		217,307	625,932

Domestic freight traffic, 1950

[Short tons]

Commodity	Total	Internal		Up-bound and down-bound	Through
		In-bound	Out-bound		
Total	2,845,302	1,230,274	739,710	42,783	832,535
ANIMALS AND ANIMAL PRODUCTS, EDIBLE					
Fish, fresh or frozen, except shellfish	745			745	
ANIMALS AND ANIMAL PRODUCTS, INEDIBLE					
Animal products, inedible, n. e. c., except sea shells	137	137			
VEGETABLE FOOD PRODUCTS AND BEVERAGES					
Wheat	93,754	474	10,482		82,798
Soybean flour, edible	128	128			
Vegetables and preparations, n. e. c	312	312			
VEGETABLE PRODUCTS, INEDIBLE, EXCEPT FIBERS AND WOOD					
Naval stores, gums, and resins	7	7			
Vegetable products, inedible, n. e. c	2,768	2,697	71		
WOOD AND PAPER					
Logs, rafted	937,140	603,270	305,621	28,249	
Posts, poles, and piling	556	250	306		
Wood, unmanufactured, n. e. c	232,802	219,452	13,300	50	
Woodpulp	31,077	389	30,688		
Standard newsprint paper	261	261			
Paper, related products, and manufactures, n. e. c	132,155	10,958	121,197		
NONMETALLIC MINERALS					
Gas oil and distillate fuel oil	299,880	57,204	122		242,554
Motor fuel and gasoline, including blending agents or antiknock compounds of petroleum origin	535,686	49,415	556		485,715
Residual fuel oil (including bunker oil)	49,416	49,416			
Lubricating oils and greases	153	143			10
Petroleum products, n. e. c	66	66			
Building cement	14,356	10			14,346
Concrete and cement manufactures	100	100			
Clays and earths	1,385	1,385			
Clay products, n. e. c	57	57			
Sulfur	17,393	17,393			
Sand and gravel, crushed rock, except limestone	424,108	211,499	198,870	13,739	
Nonmetallic minerals, n. e. c	192	192			
METALS AND MANUFACTURES, EXCEPT MACHINERY AND VEHICLES					
Iron, steel, tinplate, and terneplate scrap and waste	100				100
Primary iron and steel mill products	160	133	27		
Other iron and steel fabricated basic products	2	2			
Iron and steel pipe and fittings	11	11			
Aluminum ore, concentrates, base alloys and scrap	71	71			
MACHINERY AND VEHICLES					
Construction, excavating, and conveying machinery and parts	25	25			
Machinery and parts, n. e. c., except agricultural	2,452	2,374	78		

Domestic freight traffic, 1950—Continued
[Short tons]

Commodity	Total	Internal		Up-bound and down-bound	Through
		In-bound	Out-bound		
CHEMICALS AND RELATED PRODUCTS					
Coal-tar products	69	69			
Sulfuric acid	35	35			
Industrial chemicals, except sulfuric acid	401	401			
Pigments, paints, and varnishes	1,195	1,195			
Chemical specialties, except chemical specialty compounds, n. e. c.	395	363	32		
MISCELLANEOUS					
Commodities, n. e. c.	65,752	380	58,360		7,012
Total ton-miles, 123,407,722.					

EXTENSION OF NAVIGATION

Mr. FORD. According to earlier testimony today it was indicated The Dalles project's completion will only extend navigation 25 miles farther up the river. What benefits would come from navigation only 25 miles farther up the river? Is there a terminal or other facilities 25 miles up the river that make this important?

General CHORPENING. There is already some navigation there at this time, and we will put that into the record. As to actual terminals or spots where the navigation stops and the size of them, I do not have that information immediately available, but I can furnish it.

Mr. FORD. What is the probability? I am just surmising that at the end of the reservoir there is no real benefit beyond the 25 miles up the river.

General CHORPENING. There is some navigation now going on up the river, and there is bound to be a normal amount when we get further facilities; but there is some now going up.

Mr. FORD. Navigation would continue under present existence, even if you did not have The Dalles?

General CHORPENING. Except there are at the present time some facilities in the vicinity of The Dalles we are going to drown out, and also The Dalles Celilo canal.

NAVIGATION BENEFITS

Mr. FORD. I think the record ought to show just what benefits will be derived from extending the navigation 25 miles farther up the river.

General CHORPENING. You would like to have something to indicate just what navigation benefits will be derived from the construction of The Dalles by itself?

Mr. FORD. Yes.

(The information requested follows:)

If river improvements of the Columbia-Snake River waterway should be limited to existing open-river improvements and those dams now completed or under construction, the resulting average annual navigation benefit creditable to The Dalles Dam is estimated to be $564,000. Four companies are now carrying practically the entire freight movement on the Columbia River past the site of

The Dalles Dam and must use the obsolescent Dalles-Celilo Canal. Barge movements are considerably hampered by delays, resulting from inadequate dimensions of the canal and the four locks therein, as well as the unfavorable navigation conditions in that part of the river to be inundated. The large single-life lock at The Dalles Dam, designed for modern barge operation, will greatly expedite traffic on this part of the Columbia River and materially reduces the dangers to navigation. No important terminals are now located in the reach of the Columbia River to be inundated by The Dalles pool. After construction of the dam, it is anticipated that extensive terminals will be constructed by local interests at Biggs, Oreg., and Maryhill, Wash., both located on The Dalles pool. About 10 percent of the anticipated future traffic through the lock at The Dalles Dam is expected to originate or terminate on The Dalles pool.

LIVING QUARTERS

Mr. FORD. In the justifications for this year I do not see any breakdown of figures for the construction of living quarters, and so forth, for personnel to be working on the project.

General CHORPENING. We do not propose to build any living quarters for personnel working on this project. We anticipate that the local community at The Dalles and other places can take care of all the people who will come there, and we hope that we can avoid any construction of quarters at that place, and we have included nothing in the 1953 estimate for that.

We will, of course, have an administration building at the site. Wherever we possibly can avoid the building of houses we are going to do it.

NATIONAL DEFENSE STATUS OF PROJECT

Mr. FORD. This project was not certified last year as essential to national defense, was it?

General CHORPENING. It was certified for planning.

Mr. FORD. According to the testimony last year, shown on page 198, Mr. Rabaut asked this question of Colonel Potter:

Was there an attempt to have it certified for national defense?

To which Colonel Potter answered: "No, sir."

Mr. BOUSQUET. The original request for certification last year, which was dated about the 26th of December, did not provide for certification of The Dalles for planning. It was certified separately about the 17th of February last year for planning.

FIRMNESS OF COST ESTIMATES

Mr. FORD. On page 204 of the testimony last year, Colonel Potter was quite strong in the statement that the cost estimates on The Dalles were firm. Now we find that there has been a rather substantial increase in the cost. Are you just as firm in your cost estimates as he was last year?

General CHORPENING. In the past year we know that the over-all cost of construction has gone up 5.8 percent. The over-all cost increases on this project are slightly more than that, and an estimated curve of increase cannot be too firm against that kind of an increase.

I would say that actually the increase of costs, according to our best judgment, has gone up something nearer the over-all index. I think

this is fairly sound, particularly where we have had no construction at this time. If we had half the project finished, and the costs went up to the same extent, I would say that we were in error then, because they should only go up perhaps 50 percent of the over-all increase.

Then of course again using the 5.8 as the over-all criteria for increase, you must realize they may have many variations; and you also may have variations due to the type of construction that is involved on a particular project.

We know that the 5.8 is made up of all kinds of construction, whereas some types go up more than others.

Mr. FORD. As I recall, the earlier testimony this morning, the cost revision figures were not based entirely on the Engineering Cost Index.

General CHORPENING. That is correct.

Mr. FORD. So that the preliminary data in the project report on which Colonel Potter made his statement were to some degree in error?

General CHORPENING. Well, you would never expect that an estimate made before you had started on your work on the project of this magnitude would be a completely exact one.

Mr. FORD. I was just going on how strong he was in his statement here that everything was 100 percent in order.

General CHORPENING. On which page?

Mr. FORD. On page 204, where he stated:

> We ran much better than preliminary designs on the project, and I feel that the figures in that survey document will stand up quite comparably to what we find out when we underwater the foundations and get to rock.

The total cost was estimated at $6 million on the 308 Report for the Columbia River, which Colonel Potter said—

> is one of the most complete and best engineered documents I have seen in my whole career.

General CHORPENING. I think the estimate in the survey document was $286 million made 3 years ago. I do not know just exactly what the increased costs have been, I think it has been around 15 or 16 percent, and applying that to the $286 million, I believe that Colonel Potter's statement would still stand up very well. I think that 15 percent of $286 million would be about $42 million, and adding that to the $286 million would bring it to $328 million.

Mr. FORD. But the total estimated cost as of now is $348,372,000.

General CHORPENING. I assumed the increase at 15 percent; it may be 18 percent. I was just using that to make a rapid calculation.

SCHEDULE OF EXPENDITURES

Mr. FORD. What is the estimated curve on expenditures on this project, based on your present schedule?

General CHORPENING. For fiscal year 1954, $62 million; for fiscal year 1955, $74,500,000; for fiscal year 1956, $78,900,000; for fiscal year 1957, $58,700,000; for fiscal year 1958, $20,500,000; and after 1958, $11,472,000.

FISHING FACILITIES

Mr. FORD. There has been an increase in the proposed cost of fishing facilities. Is that increase in the estimate attributable to changes which the Corps of Engineers has made, or are those changes which result from recommendations of the Fish and Wildlife Service?

General CHORPENING. As far as I know those are changes we feel are essential to secure fish facilities which are adequate and satisfactory to all agencies, Federal and State concerned.

Mr. FORD. Has the Corps of Engineers received from the Fish and Wildlife Service recommendations that changes be made?

General CHORPENING. During the past year?

Mr. FORD. During the past year.

General CHORPENING. I do not know that we have received any formal requests. However, I would like to check that for the record.

Mr. FORD. I would like to have you check it, and if you have received such recommendations, include them in the record.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

No specific recommendations relative to the fish facilities to be installed at The Dalles Dam have been received from the Fish and Wildlife Service during the past year.

USE OF HIGHER ELEVATION BY FISH

Mr. FORD. How do you know the fish will use the higher elevation than what is now in operation at Bonneville?

General CHORPENING. The amount of difference, as I recall, is about 30 feet more than Bonneville. If a fish can successfully go over an elevation to 60 feet, by the little jumps that are included in the ladder, we do not anticipate it will have any trouble in going over an additional 30 feet.

Similarly McNary is about the same height as The Dalles. We are including the facility there, and I think everyone is convinced there will be no difficulty about the fish going up those ladders.

As a matter of interest, at the present time, the salmon must pass Celilo Falls—and I believe that is about a 15-foot higher jump generally that they have to make at this time, than will be required at the fish ladders. For instance, the steps at the ladders are about 1 foot each, so we do not anticipate that the salmon are going to have any difficult going over the dam.

Whether they make that step, or whether they make it gradually on up the river, the salmon somewhere have got to climb that elevation before they get to their spawning grounds.

REQUEST OF BUDGET

Mr. FORD. What did the Corps of Engineers present to the budget on this project, as a request?

General CHORPENING. $45,200,000 total. Not all of that was within the ceiling. We can give it to you by what was within or over the ceiling.

Mr. FORD. Will you include that in the record?

General CHORPENING. Yes, sir.

(The information requested is as follows:)

Within ceiling	$16,000,000
Over ceiling	29,200,000
Total	45,200,000

COOPERATION FROM THE DALLES

Mr. FORD. What assurance do you have from the city of The Dalles that they are prepared to go ahead to construct the necessary navigation facilities for the new navigation program you have in mind as a result of the completion of this project?

General CHORPENING. I think The Dalles already has facilities for whatever traffic is there. But the project itself contains no requirement for local cooperation; as a matter of fact, the city of The Dalles is located downstream from the dam, rather than up in the pool.

Mr. FORD. In other words, the construction does not require any revision of their navigation facilities at The Dalles?

General CHORPENING. That is right.

GAS DISCOVERY IN CANADA

Mr. RABAUT. I want to call your attention to a report concerning the development of natural gas in Alberta.

What effect would the transportation of this natural gas to the Pacific Northwest have upon this proposed program? We read from this statement that there are 12 million barrels of oil used in Oregon and Washington in a year; 31 percent goes for gas manufacture. It is pointed out in this newspaper article that this would be very beneficial to the United States oil reserves. The way the discovery has taken hold is evidenced by the land acreage that has been involved. For instance, in 1948 there were 1,900,000 acres under lease in this oil area; in 1949 there were 2,300,000 acres under lease; and in 1950 there were 10,500,000 acres under lease; and it is estimated there will be anywhere up to 37 million under lease later. They appear to have made a real find.

I wish you would discuss this matter and advise us of the effect you think it would have on the States involved.

General CHORPENING. What effect it would have on both navigation and power?

Mr. RABAUT. No. I think it would have very little application to navigation, but it could apply to power.

General CHORPENING. I would want to think about that.

(The information referred to appears as follows:)

Gas imported from the Canadian fields in Alberta would not affect the region's need for hydroelectric expansion. Available information indicates that at such time as natural gas becomes available in this region, it will in all probability just be competitive with oil for industrial use. It is not expected that gas could economically be used in competition with oil in firing the steam generating plants of this region, because in order for gas to be economical, it must have a high load factor use. In this area, steam generation is used to firm up hydroelectric generation when the region is experiencing minimum water conditions. This means that much of the time steam plants are not in operation, and consequently, the gas lines would not have a load to serve. On the other hand, oil can be stored in sufficient quantities to meet seasonal steam generation demands with a minimum of storage investment. The cost for steam generating by either gas or oil to replace the hydroelectric power to be generated at The Dalles would be at least twice the cost of generating from The Dalles project.

POWER UNITS

General CHORPENING. Mr. Chairman, may I make one additional statement in connection with The Dalles?

Mr. RABAUT. Yes.

General CHORPENING. In the entire development it will be noted on the justification sheets that 22 power units are ultimately planned for. However, the initial installation is only 14 units and the estimate of cost now before the committee is for the initial installation for a powerhouse that will include 16 units and for a substructure on which at such time as it may be justified the additional 6 units could be placed.

Mr. RABAUT. A total of 22?

General CHORPENING. Yes, sir; 14 units we are going to install with a powerhouse, to be sufficiently large to hold 2 more or a total of 16 and a substructure so constructed that when additional units may be justified 6 additional units can be provided for.

Mr. RABAUT. That is a standard procedure; is it not?

General CHORPENING. Yes, sir. The main thing I wanted to be sure the committee understood was that the present estimate does not include the additional eight units.

Mr. RABAUT. In talking this morning about the ultimate creation of power, were all of these units included as of some future date?

General CHORPENING. The annual benefits for power that I gave this morning are based on the installation of 14 units.

Mr. FORD. What was the original authorization based on?

General CHORPENING. Mr. Ford, I believe that the original authorization was based on the 14 as I have just stated, but I would like to check that and correct the record, if that is not true.

MONONGAHELA RIVER, PA. AND W. VA.

Mr. RABAUT. We turn now to the project on the Monongahela River, Pa. and W. Va., lock 2. This is a project with a total estimated Federal cost of $16,910,000. The allotment to date is $13,980,000. The appropriation for 1952 was $4,000,000 and the tentative allocation for fiscal year 1953 is $2,930,000 which, I believe, will complete the project. As of the close of the fiscal year 1952 the estimate of completion is 83 percent. Tell us what you are going to do with the balance of this money, General.

General CHORPENING. The funds requested for this year will complete this project and will be applied to the completion of the 110-foot lock at this location. This, as the committee will remember, is a project which is replacing an old obsolescent structure on a most important waterway.

INCREASED COSTS

Mr. RABAUT. Last year you estimated $1,620,000 to complete the project. What is the reason for the increase to $2,930,000 to complete?

General CHORPENING. This increase of approximately $1.5 million has been occasioned by bids, or rather a bid opened last summer, which was considerably higher than we at that time had anticipated. This is steel and concrete construction and apparently the contractors were considerably worried about the possible increases in the cost of

steel and concrete and the bids were higher than we had estimated. However, they were not high to the point where under our procedures we would throw them out.

Mr. RABAUT. How many bids did you receive?

General CHORPENING. Three bids. The low bidder was the Dravo Corp., a firm that has done business with us over many, many years and I would say has one of the finest reputations in the construction industry.

Mr. RABAUT. Can you assure the committee that this amount will complete the project?

General CHORPENING. Yes, sir.

CONTINUING-TYPE CONTRACT

Mr. FORD. Would you spell out whether or not this was a continuing contract which was let last year, or whether it was based on a one-shot proposition for two successive years?

General CHORPENING. It was a continuing contract that we let I believe last July. The contract was entered into on the 26th of June 1951, a continuing contract to complete the 110-foot lock.

Mr. FORD. How much was the total amount of the contract?

Mr. BOUSQUET. The total amount of the contract was $8,644,900. That includes Government cost.

Mr. FORD. When was that contract signed?

General CHORPENING. June of last year, the 26th of June.

Mr. FORD. For the whole $8,644,900?

Mr. BOUSQUET. Yes, sir.

Mr. FORD. If that contract was signed then why could you not have had a better figure at the time you appeared before the Senate, if not before the House, on the requested appropriation last year?

General CHORPENING. I think Colonel Potter testified before the House in April on this.

Mr. FORD. I think the bill did not go through the House until June 14 last year and there was some delay after that before the Senate took it up.

I think it would be helpful to the committee and it might be beneficial for the record to show the history of this contract. This is almost a 100-percent increase. The estimate last year of remaining work to be done, as I understand, was $1,620,000. Now to bring the remaining work up to completion it is estimated will cost $2,930,000.

General CHORPENING. But the increase must be considered on the amount of work unobligated and to be done at that time, not on the amount to come in 1953.

Mr. FORD. When you gave us those figures of the tentative allocation for completion, they were reliable?

General CHORPENING. They were as accurate as we thought we could make them at that time. When Colonel Potter in April testified here we had not advertised for this particular contract, and until we had opened bids he could only testify on the basis of the estimate that had been made in July of 1950.

Mr. FORD. How much variation was there in the bids made by the three contractors?

General CHORPENING. I do not think we have that here. We can supply it, however.

Mr. RABAUT. Please do.

Mr. FORD. I really feel, General, it might be helpful for the record to have a detailed explanation of such a tremendous increase.

General CHORPENING. We would be glad to do that.

Mr. KERR. Does this added $2,930,000 cover just the increase?

General CHORPENING. The increase in over-all cost, Judge, is approximately $1,500,000 for the entire project.

SCHUYLKILL RIVER AROVE FAIRMOUNT DAM, PA.

Mr. RABAUT. We shall turn to the next project, Schuylkill River above Fairmount Dam, Pa. The Federal cost of this project was $12,574,000. The allotments to date are $2,300,000. The appropriation for 1952 is $1,900,000 and the tentative allocation for the fiscal year 1953 is $1,200,000.

This project as of the close of 1952 will be 18 percent completed. The money requested for 1953 would bring that percentage up to 28 percent.

General CHORPENING. This is a project in which the Federal Government is cooperating with the State of Pennsylvania on the elimination of a most undesirable situation on the Schuylkill River, the culm deposits which have grown up over a long period of years and which have had a most deleterious effect on navigation in that stretch of the Schuylkill River. The State has appropriated $35 million for its share of the work and is proceeding very well in carrying out its part of the contract.

The $1,200,000 we are asking for this year will be entirely devoted to dredging of the Flat Rock pool portion of the Schuylkill River under a continuing contract.

Mr. RABAUT. How much did you say the State was contributing?

General CHORPENING. $35 million. I might call the attention of the committee to the fact that this estimate, of course, has not increased since the authorization of 1946. We still think it is a good estimate.

CONTINUING-TYPE CONTRACT

Mr. FORD. Is this a continuing contract?

General CHORPENING. Yes, sir.

Mr. FORD. How was this contract handled? Was it a firm bid or did you have an escalator clause, or was it a per-unit contract?

General CHORPENING. It is a firm unit price contract.

Mr. FORD. Just how does that operate? What do you mean when you say firm unit price?

General CHORPENING. Let us say for the purpose of explanation that in preparing our specifications we said 1 million cubic yards of material located in a stretch of the river would have to be dredged. There would be further information about the depths, and so on. We would ask for a unit price bid per yard of removed material. Suppose that were 50 cents. That would be a $500,000 contract nominally.

Actually, we are never able to estimate exactly the number of yards, but we may be somewhat under or somewhat over. The usual allowance is let us say 20 percent, plus or minus. That might be considered to be within the allowable limitation.

Mr. FORD. The variation is as to the yardage not as to the price?

General CHORPENING. That is correct.

Mr. FORD. In other words, when you have a contract of that sort, the price on each yard is determined and there can be no variation in that?

General CHORPENING. That is correct.

Mr. FORD. But if you underestimate the number of yards then the total amount is less?

General CHORPENING. That is correct.

Mr. FORD. And vice versa, if the yardage is the other way?

General CHORPENING. Yes, sir.

Mr. FORD. And that is the kind of contract that exists here?

General CHORPENING. That is correct.

Mr. FORD. Suppose the kind of material to be removed is different from what the contractor anticipated. Do you make him an allowance of some kind?

General CHORPENING. If the material that is encountered is different from what we have stated in our specifications and in our borings, than we may have shown to the contractor, then the contractor has the right to ask for an increase. That becomes a matter of adjudication with the district engineer and on up to our office here on the approval of a change order. If it is not allowed as a change order then the contractor may go through certain proper procedures for making a claim and a board in our office sits on it to decide whether the claim is right or wrong. If they decide against him, he still has recourse to the Court of Claims.

Mr. FORD. Is the dredging of the Plymouth pool completely finished or will it be during the fiscal year 1952?

General CHORPENING. That is under way—the contract that is under way on Flat Rock also includes the Plymouth pool.

Mr. FORD. In other words, it is a contract for both pools?

General CHORPENING. Yes, sir.

Mr. FORD. You have not expended any money for Plymouth pool up to the present time except the $22,000?

General CHORPENING. That is correct; yes, sir.

Mr. FORD. But you have a different contractor on that $22,000 item?

General CHORPENING. I would say that that $22,000 does not represent payments to a contractor, but is for planning. That seems to me to be an amount that we have used for planning and the preparation of specifications and plans on which to ask for bids.

Mr. FORD. Suppose the Congress did not authorize the requested remaining $1,200,000 for Flat Rock pool, would you still let a contract for both Plymouth and Flat Rock, the latter up to an amount of $1,233,000?

General CHORPENING. I do not know about that, Mr. Ford. It would be a matter of development in the field, whether we would want to go ahead and do a portion of that with the knowledge that we do not have the funds in hand to go ahead with the remainder. Offhand I would say "Yes," we could go ahead; because I do not know of anything that would be particularly disadvantageous in doing part of it. But I do not know for certain.

Mr. FORD. Why did the budget exclude the $135,000 for completing the dredging of Flat Rock pool?

General CHORPENING. I believe the answer to that is that in figuring the rate of progress that might be attained by a contractor it did not work out that he could go that fast to expend all of it in the one year.

Mr. FORD. Are you still of the opinion that there will be a substantial reduction in the maintenance of the Philadelphia Harbor if this culm is removed?

General CHORPENING. Yes, sir.

CHEATHAM LOCK AND DAM, TENN.

Mr. RABAUT. We will take up the Cheatham Lock and Dam, Tenn. This is a project with an estimated Federal cost of $14,200,000. The allotment to date totals $6,636,500. The tentative allocation for fiscal year 1953 is $6 million. The appropriation for 1952 is $3 million and as of the close of 1952 this project will be 47 percent completed and with the money requested for the fiscal year 1953 that percentage would rise to 89 percent. The amount needed additional to complete after fiscal year 1953 is $1,563,500.

General CHORPENING. I would like to make a very brief statement. The $6 million that we requested this year is to be applied in detail as shown in the justification sheet, the largest item being the construction of the dam itself with just under $3 million and lands $1,200,000.

This lock and dam replaces I believe two existing crib-type dams which are over 40 years old. They are in very bad shape and the failure of either of these dams would result in partial impairment of the use of the waterway, and the increase in ultimate cost of the entire work.

POWER FACILITIES

Mr. RABAUT. What is the status of the power facilities at this project?

General CHORPENING. That is still before the Congress, sir. It has not been authorized.

The Senate passed a bill authorizing the power at Cheatham last session. The House Public Works Committee reported the bill favorably. It was not acted on by the House. The cost of the power was estimated at $18,200,000 for a 36,000-kilowatt installation.

COST OF LAND

Mr. RABAUT. What is the reason for the $324,000 increase in land costs.

General CHORPENING. I think that is a result of not a reappraisal of land necessarily but a reestimate of what the lands will actually cost. The over-all increase in cost of the project has only gone up $200,000 over last year.

Mr. RABAUT. But this $324,000 increase is just in the cost of the land. Did some other estimates drop?

General CHORPENING. It did.

Mr. RABAUT. Give us a statement showing the kind of land you are buying and in what amounts.

General CHORPENING. We require for the entire project 5,940 acres of land of which 3,429 acres are agricultural; 635 acres are woodland;

1,220 acres are pasture; 400 acres are river bluff, and 256 acres are nonnavigation stream beds.

Mr. RABAUT. Can you break that down as to the individual prices?

General CHORPENING. Agricultural land $768,900; woodland $25,500.

Mr. RABAUT. What is the average price per acre?

General CHORPENING. $768,900, by 3,429 acres, which would make about $224 an acre. The woodland would be about $40 an acre and the pasture land about $70.

Mr. RABAUT. When is the contract on the main dam scheduled to be let?

Mr. BOUSQUET. That was supposed to be let the 1st of this month, the 1st of January.

Mr. RABAUT. It was supposed to be?

Mr. BOUSQUET. Yes, sir.

General CHORPENING. We can check that and put an exact statement on it in the record.

Mr. BOUSQUET. The date of the submission of this information was the 11th of January, so that would be on or about the 1st.

Mr. RABAUT. Please inform the committee of the Engineer's estimate and the actual amount of the contract and the contractor to whom it was awarded.

(The information requested follows:)

CHEATHAM LOCK AND DAM—LOCK OPERATION BUILDING AND ACCESS ROADS

Contract for the construction of the lock, operation building, and access roads were awarded on February 23, 1950, to T. L. James & Co., Inc., Stevens Bros., and Miller-Hutchinson Co., Inc., coadventurers of New Orleans, La., on a bid of $4,975,258.75 which is 28 percent under the Government estimate of $6,913,359. The other bidders and the amounts of their bids are as follows:

1. Ralph Mills, Inc., et al	$6,196,245
2. Johnson, Drake & Piper, Inc	7,565,946
3. United Construction Co	5,264,111
4. Arundel Corps, et al	7,394,590
5. Maxon Construction Co	5,695,236
6. Bates & Rodgers Construction Co	8,288,188
7. Gordon Hamilton Construction Co	6,886,867
8. Morrison, Knudson Co., Inc	5,833,872
9. Hardaway Construction Co	6,104,117
10. M. J. Boyle & Co	7,233,780
11. J. A. Jones Construction Co	6,980,056
12. McCarthy Improvement Co	8,935,550
13. Spencer, White & Prentiss, Inc	7,495,817
14. Al Johnson Construction Co	5,297,885
15. T. L. James & Co., Inc	4,975,259
16. Dravo Corp	6,383,226

Main dam

Bids for the main dam were opened on January 15, 1952. The Government estimate for this work is $3,388,460. The low bidder was the Dravo Corp. in the amount of $3,086,414 (9 percent below Government estimate). The bid of T. L. James & Co., Inc., et al., was $3,678,019.

VARIATION IN COST ESTIMATE

Mr. DAVIS. General, there has been a considerable amount of variation in the cost estimate of this project in the last few years. Would you give us an explanation of that?

General CHORPENING. Last year, as I recall, it was estimated at $14 million. The estimated cost at the time of authorization was $7,150,000.

It would appear that between the fiscal year 1950 and the present time there has been an increase of $4,300,000; in other words, $9,900,000 for fiscal year 1950 and the estimate this year is $14,200,000, a difference of $4,300,000.

I do not have at my immediate disposal what the actual price index increase has been between the time the estimate was made for 1950, which would have been back in 1949 and the present, but I will venture to say that that would be a great amount of the increase. If there were other things that were involved—modifications, or whatever; I am not aware of them, but I can check that and include them in the record.

(The matter referred to is as follows:)

Cheatham lock and dam—Changes in cost estimates

Fiscal year	Total cost estimate	Remarks
1950	$9,900,000	
1951	15,264,000	Raised pool from elevation 380 to 385. Increased lock from 600 feet to 800 feet. Crest gates for dam and E. N. R. Index, total $5,364,000.
1952	14,000,000	Based on more favorable bids from 16 bidders.
1953	14,200,000	Increase provides for a new derrick boat rather than use of a boat approaching end of its economic life.

Mr. DAVIS. Is the increase from $9,900,000 in the fiscal year 1950 to $15,200,000 in 1951 explainable on the basis of the decision during that interim to put the power facilities in?

General CHORPENING. No, sir. There is nothing in these estimates included additionally to take care of power.

Mr. DAVIS. There certainly must be some explanation for the jump from the fiscal year 1950 to fiscal year 1951 amounting to over $5 million, other than the cost-of-construction increase.

General CHORPENING. I would like to furnish some information for the record. My own preparation for the hearings went back 1 or 2 years. I did not go back further. I am ready to give that to the committee if desired but I did not prepare on all of them because I did not think that was essential. I would like to point out that, with the present estimated cost, the benefit cost ratio of this is still 1.77 to 1.

Mr. DAVIS. In your statement, General, the three figures that will specifically require explanation are the estimated cost of $9,900,000 for the fiscal year 1950, $15,264,000 for the fiscal year 1951, and $14,000,000 for the fiscal year 1952. I suppose that the increase of $200,000 from the fiscal year 1952 to fiscal 1953 hardly requires any special explanation.

What are the proposed benefits of this project?

BENEFITS TO BE DERIVED

General CHORPENING. Yes, sir. The benefits—and this is the latest estimate—are: Savings in transportation cost on prospective traffic and additional savings on existing traffic as a result of the improvement, $897,000.

Savings in Federal operation, maintenance, and replacement cost if the existing facilities be replaced, $210,000.

The annual value of the estimated cost of dredging eliminated by this pool, $78,000. That is a total average annual benefit of $1,185,000.

Mr. DAVIS. This year's request would finish the construction of the lock. Now, we come to an item of almost $3 million for the construction of the dam. We are still without any authorization for power. As you recall, this subcommittee had very serious reservations about appropriating any money for this last year until the power-authorization problem had been ironed out. We are still not on very sound ground as far as appropriating any money for the power portion of the project.

General CHORPENING. There are no funds included in our request in connection with the power features of the project.

Mr. DAVIS. How is future installation of power going to affect your cost of this project?

General CHORPENING. If power were authorized, it would increase the cost of the project by $18,200,000—that is, to install power.

Mr. DAVIS. How far can you safely go ahead with the construction of this project without great cost to the Federal Government, with this matter of power still pending?

NAVIGATION BENEFITS

General CHORPENING. The project as it stands is fully justified as a navigation project.

Mr. DAVIS. What happens if you go ahead on the basis of your present design and then Congress passes an authorization for power? What are you going to do with your plans?

General CHORPENING. The power plant will be installed on the left abutment of the structure and it would require us to go in and do excavation and put in a cofferdam on that abutment to allow for the excavation and the foundations and the installation of the power.

Mr. DAVIS. It would not affect the over-all design of the dam as you have now planned it?

General CHORPENING. No, sir.

Mr. DAVIS. Then how far can you go with this without there being some duplication? Is there any of the presently designed project that you would have to redesign if power were to be installed?

General CHORPENING. None whatsoever—or at least to a very minor extent.

Mr. DAVIS. If the combined project of navigation and power had been conceived and originally planned as one project, could it not have been done appreciably cheaper than will now be the case?

General CHORPENING. I would answer the question by saying "yes"; I think if we had started this as a combined navigation and power project, it could certainly have been done somewhat cheaper. But I do not think an appreciable amount because of the fact that we propose to put the power in on the abutment where it is additional to the dam that we must build for navigation in any event.

Mr. DAVIS. If you were in our position, would you not give serious consideration to appropriating funds for the completion of the construction of the lock and holding funds for construction of the dam in abeyance until the power issue had been settled?

General CHORPENING. I would answer by saying I would give serious consideration to it; yes, sir.

Of course, we have made some progress on building a lock and unless you go ahead and complete the dam you are making no use of something that has already been built or partially built. Without the dam the lock is of no use and without the dam none of the benefits I recited will be achieved.

As a matter of fact, without the dam and with the construction that has been done none of the benefits would be achieved and we would be placed to some expense to take care of or maintain what has already been done.

RELOCATION PROGRAM

Mr. DAVIS. The entire relocation program is to be completed in this request for funds. Will you inform us as to what those relocations are to be?

General CHORPENING. We have a railroad relocation in which we have some work to do on a bridge and the estimate is $390,000. We have a highway relocation, State Highway 12, 2 miles, $66,000; county and farm roads, including 14 bridges, 13 miles, $214,000; and then minor access roads, $102,000. We have one utility relocation, the Tennessee Gas & Transmission Co., two 26-inch and one 24-inch pipeline, $28,000, or a grand total of $800,000.

POWER PLANT COSTS

Mr. FORD. General, what is the estimated cost of the power plant that is being planned?

General CHORPENING. A power plant cannot be installed under the present authorization. The estimated cost of the plant recommended is $18,200,000 additional to put power onto that project.

Mr. FORD. That is $18,200,000 over-all, or just in addition to?

General CHORPENING. In addition, sir.

Mr. FORD. Last year Colonel Potter testified that it would cost $15 million. How do you account for the difference?

General CHORPENING. I will have to look that up to see why there is a difference.

Mr. FORD. Will you include that information in the record?

General CHORPENING. Yes, sir.

(The information requested follows:)

ESTIMATED COST OF CHEATHAM POWER PLANT

The cost estimate of $15,000,000 presented for the Cheatham power plant in the fiscal year 1952 appropriations hearings was an estimate based on a report prepared in March 1950. Upon review of this report by the Office of the Chief of Engineers, the cost estimate was increased by 10 percent of the direct construction costs to provide for contingencies not included in the estimate as submitted. This action increased the cost estimate to $16,500,000 based on prices as of March 1950. Escalation of this latter estimate by the increase in the Engineering News-Record Index from March 1950 to July 1951 resulted in the current estimate of $18,200,000.

RIVER TRAFFIC

Mr. FORD. Last year there was some information given us as to the river traffic. Will you bring that up to date in chart form?

General CHORPENING. Yes, sir. Was there a chart in the hearings?

Mr. FORD. I do not think it was in chart form, but Colonel Potter read some figures off for us.

General CHORPENING. We will supply that information.

(The information requested follows:)

Traffic on Cumberland River

[Thousands of tons]

Year	Cumberland River (net)	Below and including Nashville	Above and excluding Nashville
1940	852	817	382
1941	1,059	1,059	527
1942	1,226	1,197	282
1943	712	712	2
1944	774	745	131
1945	814	763	308
1946	1,027	1,018	543
1947	1,206	1,139	386
1948	1,352	1,352	239
1949	1,479	1,434	343
1950	1,647	1,628	402

BENEFIT-TO-COST RATIO

Mr. FORD. What is the benefit-to-cost ratio?

General CHORPENING. 1.77 to 1. That is the project as it is now under way, and does not include anything for power; that is the navigation project only.

Mr. FORD. What would be the benefit-to-cost ratio if you included the power?

General CHROPENING. I do not have that here. I can supply it.

(The information requested follows:)

Cheatham lock and dam—breakdown of proposed benefits

The current estimate of annual benefits is summarized as follows:

Savings in transportation costs on prospective traffic and additional savings on existing traffic as a result of the improvement	$897,000
Savings in Federal operation maintenance and replacement costs for the existing facilities being replaced	210,000
Annual value of estimated costs of dredging eliminated by Cheatham pool at elevation 385	78,000
Total	1,185,000

The average annual charges for the Cheatham lock and dam, based on the current approved estimated cost, are $668,000, resulting in a benefit-to-cost ratio of 1.77 to 1 (exclusive of power).

Benefit-to-cost ratio with power, based on the July 1951 estimate of $18,200,000, is 1.31 to 1, giving an over-all project ratio of 1.51 to 1, based on a total project cost of $32,400,000.

NEED FOR POWER

Mr. FORD. There has been no certification by the President as to the need or necessity for power on this project?

Mr. BOUSQUET. Not specifically. Other projects in the general area have been certified, but this one has not, and there was no occasion for requesting certification.

OLD HICKORY LOCK AND DAM, TENNESSEE

Mr. RABAUT. Next is the Old Hickory lock and dam. The total estimated Federal cost for this project is $50,600,000; the allotments to date, $2,450,000; tentative allocation for the fiscal year 1953 is $16 million. This was a new project last year. As of the close of 1952 it will be 5 percent completed. The request for 1953 would bring the completion rate to 36 percent.

What do you propose to do with this money?

GENERAL STATEMENT

General CHORPENING. The $16 million that we are asking for for 1953 will be allocated to various features of the project, the major amount going to construction of lock and dam, $7,200,000; $3,300,000 will go to the manufacture of turbines, and $1,500,000 for the manufacture of generators.

Also we plan to utilize $1,480,000 on the procurement of land.

The engineering and design of the lock and dam are completed and bids for construction have been received. The contract for the design of the power plant has been awarded and is approximately 25 percent complete. Contracts are in force for the design and manufacture of turbines and generators.

PROJECT REPORT

Mr. RABAUT. What is the status of the definite project report?

General CHORPENING. The definite project report on this project is completed.

NAVIGATION TRAFFIC

Mr. RABAUT. What is the present traffic on the river that would justify the inclusion of a lock on this project?

Colonel MILNE. The present traffic is 340,000 tons, approximately, as appears in the last year for which I have a record.

Mr. RABAUT. What year was that?

Colonel MILNE. That figure I had was for calendar year 1950.

Mr. RABAUT. What is the potential traffic?

Colonel MILNE. The potential traffic estimated would be 800,000 tons, approximately.

Mr. RABAUT. What contracts do you contemplate in 1952, and please state again the contracts that have been let to date?

General CHORPENING. The contracts underway are: The turbines, which was let on the 21st of May 1951; a contract was awarded for generators on the 17th of July 1951; the contracts for the construction of the lock and dam was awarded December 31, 1951, and a contract for general construction was also awarded on December 31, 1951. Contracts to be awarded in fiscal year 1953——

Mr. RABAUT. No; 1952.

General CHORPENING. That furnishes awards for fiscal year 1952.

Mr. RABAUT. You do not contemplate any further awards in fiscal year 1952?

General CHORPENING. No, sir.

RIVER TRAFFIC

Mr. RABAUT. I want to go back to the river traffic for a moment, Colonel Milne.

What did you say the present tonnage of shipping was?

Colonel MILNE. Approximately 340,000 tons.

Mr. RABAUT. Would that amount of tonnage justify the building of the lock?

General CHORPENING. The navigational benefits that would result, just considering the immediate and prospective traffic—that would be about 800,000 tons of potential traffic, and there are no modern locks in the waterway, the Old Hickory project would replace five existing small antiquated locks, this would reduce the Federal cost of maintenace and operation.

Mr. RABAUT. That is what you are anticipating?

General CHORPENING. Yes, sir.

Mr. RABAUT. I am just referring to the 340,000 tons now being shipped.

Colonel MILNE. Yes, sir.

Mr. RABAUT. Does that amount of traffic justify the lock?

General CHORPENING. The amount of traffic, just of itself, possibly not; but since it replaces five other structures which are now maintained and require personnel, it does effect a considerable savings.

Mr. RABAUT. What personnel will you have on this lock?

General CHORPENING. I would like to look that up; I do not know offhand how many people we will have.

(The information requested follows:)

It is presently contemplated that six persons will be employed for operation and care of the lock at this project. The present navigation facilities to be replaced require 21 operating personnel.

TYPE OF TRAFFIC

Mr. RABAUT. What type of traffic do you have on the river?

General CHORPENING. Mostly sand and gravel in that vicinity as of now.

Mr. RABAUT. How many sand and gravel concerns, are using the stretch of the river for shipping?

General CHORPENING. I do not know that; I would have to look it up.

Mr. RABAUT. Is most of that operation due to work being performed by the Corps of Engineers?

General CHORPENING. Some of it is, I think.

Mr. RABAUT. Submit a breakdown for the record of this traffic.

General CHORPENING. I can do that.

(The information requested is as follows:)

There are two sand and gravel operators using the Cumberland River above Nashville. None of the commerce using this reach of the river in 1950 was for Government commodities.

Mr. RABAUT. What type of traffic do you anticipate using the river in the future?

General CHORPENING. Continuation of sand and gravel; and I think there will be some petroleum products, and there will be some chemicals, likewise, that will use the lower reaches of the pool.

Mr. RABAUT. Do you have any feeling that the savings accruing to operators will be passed on to the consumers, or is this just another expenditures by Uncle Sam for the benefit of a few? What benefits will accrue to the people of the country who are actually paying for this construction?

General CHORPENING. I think if they had not had the cheaper transportation service that the prices for products carried would have risen more than they have.

Mr. KERR. One purpose of this project is to obviate the need for the five old locks that are obsolete and build one that is adequate to do the job, is that not right?

BENEFITS DERIVED

General CHORPENING. That is correct. And of course, the navigational benefits are only a portion of the benefits; there will be considerable benefits from the production of the electric power.

Mr. RABAUT. In line with the Judge's question, if Old Hickory was not to be built, would you replace these other five locks?

General CHORPENING. They should be replaced; they are 40 years old.

Mr RABAUT. But would you replace them for the traffic that is on the river if you were not going to build Old Hickory?

General CHORPENING. Unless there was power that would carry the bulk of the benefit—and that is 89 percent of the benefits at Old Hickory.

Mr. RABAUT. Eighty-nine percent.

General CHORPENING Yes, sir. I do not believe we could afford to build any new locks and dams just to replace those five obsolete locks.

INCREASED COST EXPLANATION

Mr. RABAUT. What is the reason for the increased cost?

General CHORPENING. There is a slight increase—the net increase of $1,480,000 is due to the price level; a revision of the estimates has dropped this to $1,400,000.

SCHEDULE OF CONTRACTS

Mr. RABAUT. What is your schedule for letting contracts in 1953?

General CHORPENING. In 1953 we propose to let the contract for the construction of the power plant; we are proposing to let it so we can start on the 1st of January 1953. The other contracts to be let in 1952 will be continuing contracts.

Mr. RABAUT. You have a big one; $7.2 million for construction purposes.

General CHORPENING. That will be applied to the contract for the lock and dam let in 1952; and the $7.2 million will be applied to the continuation of that contract.

Mr. RABAUT. Has your turbine contract been let?

General CHORPENING. Yes, sir.

Mr. RABAUT. You expect to spend $3.3 million for that phase of the work in fiscal 1953?

General CHORPENING. Yes, sir. I would like to call attention to the fact that last year we proposed to get the first unit on the line in December 1953. It is now proposed to get the first unit on the line in October 1954, and the reason for that is that at the time we testified last year we had hoped to get our funds much earlier, and also more funds. We have found, with the amount we got last year, $2 million, we have had to set the date back.

Mr. RABAUT. How much did you request of the Bureau of the Budget for last year?

Mr. SMET. It was $8 million.

CAPACITY OF EXISTING LOCKS

Mr. DAVIS. It is true, is it not, General, that the existing locks certainly could handle present traffic without hardship?

General CHORPENING. These locks are old structures and as they continue to grow older they are going to be more expensive to maintain. Old structures involve maintenance costs beyond what we would like to see.

NAVIGATION BENEFITS

Mr. DAVIS. At the present time there is a limited benefit from navigation in this area?

General CHORPENING. Yes, sir. But I think in part that may be due to the very inadequate and inefficient locks that we have there now.

Mr. DAVIS. What potentials do you foresee there that is not now making use of navigation?

General CHORPENING. In our study made of that region we anticipate that there will be traffic of some 800,000 tons using the waterway after we have built Old Hickory. And then we are going to provide a channel of 9 feet, whereas we now provide a waterway of only 6 feet in depth.

Mr. DAVIS. Outside of the traffic downstream, sand and gravel, the other is inconsequential?

General CHORPENING. That is correct.

POWER

Mr. DAVIS. Is there a demand for the power that could not be met through private facilities in this area?

General CHORPENING. In this area, which is the area of the Tennessee Valley Authority, there is very little private power developed. And, the Tennessee Valley Authority, with other governmental agencies, figure the power requirements. Their studies have indicated there is a power shortage at the present time and that a potential demand exists for the power to be produced by this project, which they consider is essential; for that reason the project was included last year.

Mr. DAVIS. How specific was their request? Did they say the power from this particular project is essential, or did they say that the power which could be generated by this particular project or equal power from another source is essential?

General CHORPENING. I think perhaps we might read into the record at least portions of the letters that we have received from the Tennessee Valley Authority, having a bearing on this matter.

Mr. DAVIS. Very well.

General CHORPENING. This is a letter—and I am only going to read an excerpt from it, because it contains some extraneous material to this question—this is a letter from the Tennessee Valley Authority, signed by Gordon R. Clapp, Chairman of the Board, dated June 27, 1951.

Mr. RABAUT. And addressed to whom?

General CHORPENING. Addressed to the Chief of Engineers, Lt. Gen. Lewis A. Pick. He states:

> In our judgment, the need for all these scheduled power installations in the Tennessee and Cumberland Basins cannot reasonably be doubted; the probability of still further load increases is so strong, in fact, that it is highly important to improve, if possible, the construction schedules that have been developed. Therefore, we urge that every effort be made to seek restoration of the funds which were removed by the House from the budget for 1952, so that you will be able to make as much progress as possible during that year toward the completion of the Old Hickory and Cheatham power installations. Further, we urge that you explore the possibility that the 1952 works that those funds would permit could be followed in the succeeding years with a sufficiently accelerated construction schedule to complete the installation of the final Old Hickory and Cheatham units in the fall of 1954, rather than early in 1955, so as to increase the capacity that can be in service in time to meet the peak power demands that must be expected at the end of 1954. In our judgment, based on experience to date, the completion of the full power installations at these two plants well before the end of 1954 would be highly desirable.

Mr. DAVIS. When was that letter dated?

General CHORPENING. June 27, 1951.

Mr. DAVIS. Has the work on this project now progressed to a point where, if it were suspended, there would be any loss of completed work?

General CHORPENING. As far as any physical work at the site, no. If these contracts that we have entered into, that we have recited here, were closed out, there would be some charges against the Government, I am sure at this time, since they have proceeded for a short while—I could not say there would be any tremendous loss if closed out just now. After all, the contract has been let very recently.

Mr. DAVIS. There would be no loss on any physical work done?

General CHORPENING. Not at this moment. Of course, as we go along in the months to come work will be started; but I am talking now as of this moment. In regard to the work under the contract that was let on generators and on turbines the units have been essentially designed, I believe, up to this time, and not manufactured.

The lock and dam contract has been let, of course.

Mr. DAVIS. Do you have a statement from the Federal Power Commission as to the urgency of this particular project?

General CHORPENING. We could look that up.

Mr. DAVIS. In order to save time, if you have such a statement from the Federal Power Commission relative to the urgency of this project for power purposes or lack of power, will you insert it in the record at this point?

General CHORPENING. Yes, sir.

(The statement is as follows:)

FEDERAL POWER COMMISSION,
Washington, December 1, 1950.

Maj. Gen. LEWIS A. PICK,
Chief of Engineers, Department of the Army, Washington, D. C.

DEAR GENERAL PICK: This is in reply to Col. W. E. Potter's letter of November 6, 1950, requesting an expression of the Commission's views with respect to the needs for the potential power from eight projects included in the authorized plan for the improvement of the Cumberland River Basin. These projects are as follows:

Project:	*Installed capacity, kilowatts*
Dale Hollow	36,000
Center Hill	135,000
Wolf Creek	270,000
Stewarts Ferry	13,500
Old Hickory	100,000
Carthage	92,000
Celina	36,000
Cheatham	64,800

The Dale Hollow project has been completed by the Corps of Engineers with provisions for an additional unit of 18,000-kilowatt capacity. The Center Hill and Wolf Creek projects are presently under construction for purposes which include power, and the Cheatham project is under construction for navigation and future power. The capacity in the above-listed projects aggregate 765,000 kilowatts, including the third unit at Dale Hollow.

It is understood that if additional funds are made available in fiscal year 1951, the generating capacity at the Stewarts Ferry project could be made available in December 1953; the generating capacity at the Old Hickory project starting in January 1954, and at the Carthage project starting in November 1954. The additional generating unit at the Dale Hollow project could be made available in May 1953. It is also understood that a request for supplemental funds for these projects in fiscal year 1951 is being submitted to the Bureau of the Budget

The Cumberland River projects are located in the service area of the interconnected and coordinated systems of the Tennessee Valley Authority and the Aluminum Co. of America. In this regard, the Tennessee Valley Authority and the Department of the Interior have entered into an agreement providing for sale to the Authority of the power generated at the Dale Hollow, Center Hill, and Wolf Creek projects.

As of September 1950, the dependable capacity of the TVA-ALCOA system was 2,798,000 kilowatts. Scheduled additions of capacity in the last 3 months of 1950 include two 45,000-kilowatt units at the Center Hill project with a dependability estimated at 39,000 kilowatts per unit and new firm power purchases amounting to 65,000 kilowatts from sources outside the area, bringing the dependable capacity as of December 31, 1950, to 2,941,000 kilowatts. Definitely scheduled additions to dependable capacity for 1951, 1952, and 1953, include 1,250,000 kilowatts of steam-electric capacity and 610,000 kilowatts of hydroelectric capacity, including the third unit at Center Hill and the full installation at Wolf Creek. The scheduled additions do not include 355,000 kilowatts reported to be available in 1951 only, from outside sources.

The power supply situation in this area is summarized below. The load estimates used in this analysis are those of the TVA-ALCOA system, since the Commission does not have complete information on the rapidly expanding defense facilities in the area.

	Dependable capacity thousands of kilowatts	Estimated peak demand thousands of kilowatts
Dec. 31, 1950	2,941	3,180
Dec. 31, 1951	3,423	3,860
Dec. 31, 1952	4,750	4,250
Dec. 31, 1953	4,801	4,650

From the foregoing tabulation it can be seen that the dependable supply available in 1950 and 1951 is not sufficient even to meet the estimated loads, and that in 1953 the dependable capacity will be 151,000 kilowatts in excess of the load requirements, thus indicating reserves of only slightly more than 3 percent. This amount of reserves is not considered adequate to insure continuity of service in the event of accident to or outage of equipment. The Commission staff believes that the reserve requirements should be about 15 percent of the peak load.

The estimated increase in the peak demand for power in the area during the period between 1950 and 1953 averages 490,000 kilowatts annually. The capacity to be installed in the Cumberland River project listed in your letter amounts to 765,000 kilowatts. However, the capacity in the Dale Hollow (2 units), Center Hill, and Wolf Creek projects, aggregating 441,000, has been included in the figures above for dependable capacity which will be available by 1953. Deducting this amount from the 765,000 kilowatts leaves a net addition of 324,000 kilowatts, or an amount which is substantially less than the estimated annual load growth. When consideration is also given to the reserve requirements, the necessity for additional capacity in the amounts that the listed projects would provide becomes all the more apparent.

Based upon the above considerations, the power at the projects listed in your letter would make a valuable contribution to the power supply needs of the area, and it appears that this power could be absorbed as soon as it could be made available.

Sincerely yours,

MON C. WALLGREN, *Chairman.*

TRAFFIC ON CUMBERLAND RIVER

Mr. FORD. General, on page 226 of the hearings last year there was inserted a chart showing the traffic on the Cumberland River above Nashville. Will you extend that chart and bring it up to date? It seems to me you should be able to give us at least the 1949 and 1950 figures.

General CHORPENING. We can, sir.

Mr. FORD. According to that chart there has been a gradual reduction, a rather substantial decrease in navigation from 1946 through 1948.

General CHORPENING. It went up in 1941; it dropped off and then went up again in 1946 and then dropped off in 1947 and 1948.

Mr. FORD. In 1943 only 1,900 tons of navigation on the river.

General CHORPENING. Yes, sir.

(The table requested appears on p. 160.)

BENEFIT FROM PROJECT

Mr. FORD. What are the specific benefits to be derived, dollarwise and percentagewise, from this project?

General CHORPENING. From power, $3,460,000 annually; from navigation, which includes the savings on operation and maintenance costs by the removal of existing structures, $432,000.

Power is 89 percent of the benefits, and navigation is 11 percent.

The benefit to cost ratio at end of project, 1.55 to 1.

Mr. FORD. Last year the navigation benefit was testified to be $693,200. This year it is some $400,000. How do you account for the decrease?

General CHORPENING. A reevaluation of benefits, being a more realistic evaluation as to what the actual navigation benefits will be.

Mr. FORD. Do you have a breakdown of the costs of the project allocated to navigation and power?

General CHORPENING. The cost allocation when finally made will approximate the breakdown of benefits.

Mr. FORD. As I look at the justification here, it would indicate about a 50–50, or thereabouts; yet the navigation benefits under the new evaluation are only 11 percent.

General CHORPENING. I do not know, Mr. Ford, just how you arrive at the 50–50 being navigation. The lock and the dam included, we estimate at $12,390,000. We would have to build the dam anyway, whether we have a lock in it or not, and most of the other costs are relocation and lands to be required, and clearing, which would be required for a straight power dam.

Mr. FORD. If my figure of 50 percent for navigation is wrong, certainly it is more than 11 percent.

General CHORPENING. I would not be sure of that, without an analysis, because the construction of the lock and dam and the amount to be charged to navigation, which is the difference between a lock and a dam for that portion of the project, and building a straight dam across the river. We can make an allowance of it, but I do not think it is going to show anything near 50 percent. I would think it would be somewhere between 10 and 20 percent.

Mr. FORD. You will make such an evaluation and furnish that for the record.

General CHORPENING. Yes.

(The information requested is as follows:)

Approximately 83 percent of the costs of Old Hickory project will be allocated to power, and 17 percent will be allocated to navigation.

Mr. FORD. Certainly this project would not be justified purely on the basis of navigation alone.

General CHORPENING. No, sir, and we would not have built the project just for navigation.

Mr. FORD. I think it is wholesome that you are increasing the power benefits and decreasing the navigation benefits, simply because you derive revenue from one and not from the other.

Now, will the revenue that will come to the Federal Government be based on the greater percentage benefits from power that you are using now, or will they be based on the percentage of benefits that you used in the justification last year? In other words, the navigation benefit was $693,200; which is about 15 percent of the over-all benefits. This year it is something like $400,000, or 11 percent. With the corresponding increase in the power and the revenue that will come from power receipts, are they to be based on the new figure of benefits or on the old?

General CHORPENING. They will be used on the figures of benefits as we have now presented them as to the power benefits of the project.

Mr. FORD. Then next year if you decide that the power benefits are 95 percent, then the power charges would be based on that percentage, rather than what you had estimated in April 1951 for the project in 1952?

General CHORPENING. I would like to correct my previous statement. Actually the power charges are based on allocation of the costs as finally constructed for the purpose for which the project was built.

Mr. FORD. Is power based on the cost or on the benefit to be derived?

General CHORPENING. On the allocation of costs that pertain to the power part of the structure.

And I can tell you that right now there is a conference going on over in my office between the General Accounting Office and ourselves and others in arriving or trying to arrive at cost allocations on projects, that either have been completed or are about to be completed, and it gets most complex.

DERIVATION OF POWER CHARGES

Mr. FORD. That last statement confuses me. How are the power charges based on the benefits or on the cost allocations?

General CHORPENING. They are based primarily on the cost allocations of that part of the project which you can properly allocate to power. And believe me, I could spend several hours discussing the more than a dozen ramifications of how we ought to divide what we spend on a project as between power, navigation, irrigation, flood control, and other beneficial uses. Do you charge the top part of the dam to power; do you charge the bottom part of the dam to power, and what portion? And on flood control, what part of the structure do you charge for that? There are a dozen or more various formulas advanced for figuring the problem, all of which have some merit.

Mr. FORD. Is the power charge based on the benefit percentages you gave us today?

General CHORPENING. They are close; actually they work out close, but are not on that basis alone.

Mr. FORD. Just for the record I would like to see some completed project showing what you estimated the benefits were for power, navigation, irrigation, or something else, and then the final figures as to power charges.

General CHORPENING. I can do that; I might have two projects.

(NOTE.—The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearing, part 1.)

Mr. FORD. Because if there is considerable variation you might as well not give us a figure of percentages in the breakdown.

General CHORPENING. It will generally work out pretty close to these percentages. I think you can see as a practical matter here in determining allocations you have to make some kind of an empirical breakdown between the various parts of the project, as to what part is allocable to power, what part is allocable to flood control and the other different parts.

Mr. FORD. In this specific case the Federal Government from the revenue point of view is the loser where the percentage of cost for navigation is greater than the navigation benefits.

Colonel PAULES. No; it is the other way around. The power will pay more if the benefit did not equal the cost of the lock.

Mr. FORD. In this case you have the navigation costs, generally, we will say at 15 percent——

General CHORPENING. We are going to figure that out.

Mr. FORD. Assuming it is 15 percent, you said somewhere between 10 and 20 percent. At the present time the navigation benefits, according to the latest figure, is about 11 percent; is that right?

General CHORPENING. Yes, sir.

Mr. FORD. Now, if you base the power revenue on a breakdown which we will say is 15 percent of the cost of the project for navigation, then the Government, from the navigation point of view, is the loser; is it not?

General CHORPENING. I am not sure I follow all the way through your reasoning. Of course, since this project has an over-all cost ratio of 1.55 to 1, and since even if 75 percent was allocable to power, we would still more than pay off the cost of the project within a 50-year period, I do not see where the Government loses. Certainly we have navigation, and it should carry some part of the cost.

Mr. FORD. As of this point navigation would cost a very little portion of it.

General CHORPENING. Yes, sir.

Mr. FORD. Because there is little or no navigation benefits in this, looking at the figures and the testimony.

General CHORPENING. Of course, we always come back to the proposition that there has been a national policy connected with navigation projects, and these authorizations have not been based on the total receipts; they are considered in the over-all, and generally you will find where there is power, we propose to collect the money for it.

Mr. FORD. What I am afraid of is that when you get into these conferences, such as the one going on in your office today, the people who have charge of the sale of that power want the rates low, so they would not make much over the point to have a sizable percentage of the cost allocated to power.

General CHORPENING. Mr. Ford, we are the ones that make the fight to get the proper charge allocated to power.

Mr. FORD. I hope you get it high, because I am somewhat dubious of the value of these extracurricular benefits—and I know the Federal Government gets revenue from power. I am dubious sometimes of the benefits that are included in some of these projects.

General CHORPENING. We are insistent on getting the proper charges and the proper allocations for power, and we use all the authority and resources at our command to see that is done. We are not, however, the dictator on the rates set. We are advisers only on rates.

POWER PLANT COSTS

Mr. KERR. This is the project with the total cost to the Government of $50 million. Over a third of that constitutes the construction of power plants and transmission. Is it reasonable to assume that from the operation of the project the power will pay for it?

General CHORPENING. Yes, sir.

Mr. KERR. And more than one-third of it goes into power.

General CHORPENING. Yes; $17,720,000 for the power plant; $4.5 million for the turbines, and $4 million for generators.

GULF COAST INTERCOASTAL WATERWAY—GALVESTON DISTRICT

Mr. RABAUT. The next project to be considered the Gulf Intercoastal Waterway, Galveston district. The total estimated Federal cost of this project is $29,341,000; the allotments to date, $23,018,500. The request for fiscal year 1953 is $1,386,000. The amount appropriated for 1952 was $800,000. The amount requested for 1953 will bring the project to 83 percent of completion.

General CHORPENING. The amount requested for 1953 will enable us to complete the Colorado River locks and therefore provide a much more dependable waterway in the Intercoastal Canal. The completion of the locks will reduce shoaling in the channel and thereby reduce the cost of maintenance and the frequency of marine accidents and damage to existing floodgates, and during high stages of the river will materially reduce delays presently experienced by navigation, resulting in a reduction in vessel's operating cost.

The latest benefit-cost ratio for the construction of the lock is 1.5.

Mr. DAVIS. This project, as I understand, is a conversion from a floodgate to a lock?

General CHORPENING. Yes, sir.

Mr. DAVIS. Where the Colorado River crosses the waterway.

General CHORPENING. Yes, sir.

Mr. DAVIS. Will you supply the recent traffic figures on this waterway for the record?

General CHORPENING. Yes, sir.

(The information requested follows:)

Traffic statistics

	Tons		Tons
1941	17,350,455	1946	20,456,788
1942	21,268,183	1947	22,800,684
1943	22,045,000	1948	27,866,339
1944	24,085,487	1949	28,290,900
1945	23,044,602	1950	31,520,001

COMPLETION PERCENTAGE

Mr. FORD. General Chorpening, the $800,000 for this fiscal year was supposed to bring the construction to 83 percent completion; and the justification shows only 79 percent, as I understand it.

General CHORPENING. I have difficulty understanding that change. There must be some arithmetical error.

Mr. FORD. Will you check on that?

General CHORPENING. We will check on it; yes, sir.

Increase in construction costs prevented the project from being completed in the amount estimated.

ADDITIONAL COST

Mr. FORD. The added over-all cost of the project totals $119,000. Will you explain just what is involved in that increase?

General CHORPENING. We have reevaluated the entire estimated cost and all other phases of the project, and based on experience and on present unit costs, it is our conclusion that the entire project should require that much additional estimated cost.

CONTINUING CONTRACTS

Mr. FORD. Is this a continuing contract on the Colorado River locks?

General CHORPENING. Yes, sir.

Mr. FORD. Do you have a firm contract, or do you provide an escalator clause?

General CHORPENING. The contract is based on a firm unit price. The only contracts that we have with escalator clauses are the heavy electrical equipment contracts. I explained that somewhat this morning.

CHIEF JOSEPH DAM, COLUMBIA RIVER, WASH.

Mr. RABAUT. We will now consider Chief Joseph Dam, Columbia River, Wash. This is one of the large projects, with a total estimated Federal cost of $206 million. The allotments to date have been $43,592,800; the appropriation for 1952 was $16,892,000; tentative allocations for fiscal year 1953, $25,300,000, which will bring this dam up to 33 percent of completion.

Tell us what you are going to do with the $25,300,000 requested, and something about the progress that is being made with the $16,892,000 that was allotted to this project last year.

General CHORPENING. The funds that were allocated for fiscal year 1952 were placed mainly on the dam, which includes the intake structure and the power plant. Similarly, the funds we are requesting for 1952; $10,323,000 will be allocated to the dam and intake structure, and $14,558,000 will be allocated to the power plant.

Mr. RABAUT. And $272,000 for land.

General CHORPENING. Yes, sir; and $147,000 for miscellaneous construction.

LAND ACQUISITION

Mr. RABAUT. What type of land are you acquiring?

General CHORPENING. The land costs, may I say, for a project of this scope or magnitude, are remarkably low. We were very fortunate on that. The actual land is 120 acres residential and with the land and improvements is estimated to cost $116,600 which is only a little over $10 an acre. There are 3,140 acres of agricultural land, $202,900, at an average cost of about $60 per acre; pasture land, 18,018 acres at an estimated cost of $42,400, which is only a little over $10 an acre.

COFFERDAM FAILURE

Mr. RABAUT. Did you have a cofferdam failure on this project?

General CHORPENING. We did not have a cofferdam failure on this project. We had some danger of failure, but no failure that I know of.

Mr. RABAUT. Did it involve the expenditure of extra money or time to alleviate that danger?

General CHORPENING. Not that I know of.

Mr. RABAUT. That is good.

General CHORPENING. You will note that the estimated cost of this project is the same as last year; we have reviewed our estimates and we believe the amount is still good.

Mr. RABAUT. You say the $25,300,000 requested this year will allow you to proceed according to schedule. How does this compare with the statement last year that $37 million would be needed in 1953 to maintain the proper schedule?

General CHORPENING. According to the schedule that is now set, which we are presenting——

Mr. RABAUT. The revised schedule.

Colonel MILNE. Yes, sir; however, the completion dates are the same.

General CHORPENING. We are still hoping we can meet it.

Mr. RABAUT. You are going to meet it with the $25.3 million?

General CHORPENING. We hope so.

Mr. RABAUT. Last year you thought you needed $37 million. Do you expect to attain the same percentage of completion with the $25.3 million?

General CHORPENING. No, sir; we do not in that particular year. We could not do that with the lesser amount.

ESTIMATE REDUCED LAST YEAR

Mr. RABAUT. How was the appropriation request reduced by $500,000 last year by the Senate; do you know on what basis they did it?

General CHORPENING. $500,000?

Mr. RABAUT. Yes.

General CHORPENING. I do not know.

Mr. RABAUT. Was it based on any information supplied by the Corps of Engineers?

General CHORPENING. I do not recall any.

Mr. RABAUT. I understand that it was related to the threat of the cofferdam failure. I do not remember whether it was testimony or information supplied or some other source.

In evaluating the whole project, how do you work out a $12 million difference this year?

General CHORPENING. Against the percentage of completion—that was based evidently on the amount of funds as against the total estimated cost.

Mr. RABAUT. How much did you request of the Bureau of the Budget?

General CHORPENING. This year?

Mr. RABAUT. Yes; ceiling and above ceiling.

Mr. BOUSQUET. We asked for a total of $17.8 million, of which $11.5 million was within ceiling, and $6.3 million over ceiling.

Mr. RABAUT. How did you get $25.3 million?

Mr. BOUSQUET. That is what the Budget allowed.

Mr. RABAUT. You asked for how much?

Mr. BOUSQUET. $17.8 million.

Mr. RABAUT. Out of which the Bureau of the Budget allowed you how much above ceiling?

Mr. BOUSQUET. $6.3 million was requested over the ceiling, and $11.5 million was within ceiling. The within-ceiling amount would have delayed the power on the line by about 1 year.

Mr. RABAUT. A total of $17.8 million, but the allowance by the Budget was in excess of that, namely $25,300,000? Is that right?

Mr. BOUSQUET. Yes, sir.

Mr. RABAUT. Have you any other instances similar to this in your budget?

General CHORPENING. This is the only one where more was allowed than we asked for.

Mr. RABAUT. How does the $17,800,000 compare to the $37 million that you said you were going to need? Last year you needed $37

million. This year the figure is $17,800,000 both for ceiling and over-ceiling. What happened?

General CHORPENING. It was a reappraisal of our actual monetary requirements in view of the situation as of that time.

Mr. RABAUT. What caused the Bureau of the Budget to increase the amount to $25,300,000? Was it necessary?

General CHORPENING. I do not know, sir. We asked for the figures that we have given you, and we were quite surprised when we saw the amount that was approved.

Mr. RABAUT. Did you protest and say "We think we are getting too much money"?

Mr. FORD. On the basis of your request, could they get the power on the line the same date?

General CHORPENING. Yes, sir.

Mr. FORD. In other words, with the money that you requested, the power on the line would come on the same date?

General CHORPENING. We believe so; yes, sir.

Mr. RABAUT. You mean that with the $17,800,000 you could get the power on the line as soon as you could with this $25,300,000?

General CHORPENING. We believe that we could; yes, sir. I suspect possibly the Bureau of the Budget had the feeling that by putting the additional funds in here we would be more assured of getting in on the line in the scheduled time, which is December 1, 1955.

Mr. RABAUT. There is no project similar to this where funds were raised in this manner above the request of the Corps of Engineers?

General CHORPENING. None in this budget.

HOUSING AND ADMINISTRATION

Mr. DAVIS. Last year, General, there was a considerable amount of discussion with respect to housing on this project. We have an understanding that we are going to go into this over-all housing policy during the course of these hearings. There was $1,812,000 appropriated for housing and administration facilities on this project last year. Could we get the figures from this particular project so that we could use this as an individual example in order to understand what was actually done with the $1,812,000? Give us the statement on the units, the cost of the units and, in those cases where the units are finished, the rental being charged.

(The information requested is as follows:)

Chief Joseph Dam, housing and administration facilities, Columbia River, Wash.

Item	Status	Unit cost	Estimated cost through June 30, 1952	Monthly rental
Permanent housing:				
20 2-bedroom	Completed	$8,307	$166,140	[1] $45
17 3-bedroom	do	8,908	151,336	[1] 50
3 4-bedroom	do	9,695	29,085	[1] 55
20 frame double garages	do	1,694	33,880	[2]
Temporary housing:				
37 trailers (2-bedroom)	12 completed; 25 due May 1952.	5,443	201,397	[1] 35
12 van-type trailer houses	Available for occupancy.	2,060	24,714	[4] 25
1 dormitory (24-bedroom)	Completed	54,390	54,390	35
25 van-type trailers			[3] 19,400	
Administration:				
1 administration building	do		55,850	
1 vehicle-maintenance building	do		29,985	
Utilities:				
Streets, walks, and service utilities for permanent buildings and administration building	do		224,033	
Service utilities for trailer houses			60,000	
Water-supply system, trunk sewers and sewage-treatment plant			173,757	
Planning and design			91,391	
Unallocated balance			496,642	
Total appropriated through June 30, 1952			1,812,000	

[1] Plus $5 per month for utilities.
[2] Included in monthly rental of housing.
[3] Purchased and reconditioned, since been disposed of.
[4] Plus utility service from the city of Bridgeport.

General CHORPENING. Yes, sir.

Mr. DAVIS. Can we get it for this one project so we will have that before us at the time we go into the over-all policy matter?

General CHORPENING. Yes, sir.

Mr. FORD. On that chart that Mr. Davis has requested, General, I should think the committee should have that material at the time Mr. LaCroix comes before us, so we may use that in our questioning of him.

General CHORPENING. Yes, sir.

ESTIMATED COST

Mr. FORD. General, there has been no change in the estimated cost of this project from the last time. How do you account for that?

General CHORPENING. I account for that in this way: that we have made an over-all appraisal of our estimates. Some work is going on, and we know what it is costing us on that work; and it is our conclusion, based on our experience and what we see in the future, that our estimate has sufficient contingency to take care of the costs as we see them now.

Mr. FORD. In other words, the increase in costs as shown by cost indices can be absorbed?

General CHORPENING. That is correct; yes, sir. In other words, we cannot and do not expect that in every individual project we will hit this on the button. In some we may and in some we may not; we may be over or we may be under. I am very happy that we have some

of them here where apparently in the past we had a higher estimate than the actual experience is going to indicate that we will require. In this instance we feel that our estimate is still perfectly sound because the contingency item absorbed whatever increase might occur.

Mr. FORD. Will you include in the record a statement of the schedule of contemplated expenditures on this project?

General CHORPENING. Yes, sir; I have it right here. For the fiscal year 1954, $30 million.

For the fiscal year 1955, $32 million.

For the fiscal year 1956, $30 million.

For the fiscal year 1957, $24 million.

For the fiscal year 1958, $16 million.

After fiscal year 1958, $5,107,200.

That is all based on getting the amount that is included in the 1953 request of $25,300,000.

I would like to make a further statement here such as I made on The Dalles: that the present estimate is based on the installation of 16 units and is not based on the ultimate installation of 11 units more, a total of 27 units. Likewise, the benefits are based on the installation of 16 units.

Mr. FORD. Last year we heard considerable about the power shortage in the Northwest because of insufficient water. As I understand, many of the reservoirs were dangerously low. By constructing this many projects in an area where you have that danger, are you not taking something of a gamble?

General CHORPENING. The studies for which we included the amount of power to be installed are based on information gained over a period of years of the average runoff of the rivers and the amount of power that we install, and the amount that we consider as firm and secondary is based not on the peak years and not on the low years but on the average over a period.

Mr. FORD. You recall the trouble that was encountered last year?

General CHORPENING. Yes, sir. I think you appreciate that the average flow of the Columbia River is half as large as that of the Mississippi River. The average volume of water that goes out of the Columbia each year is just about half the amount that comes out of the Mississippi.

Mr. FORD. It is interesting to note that last year Colonel Potter testified on page 244 of the hearings:

> Over the last 5 or 6 years the Bureau of the Budget has made that one of their most intense studies.

He is referring to rentals received and expenditures made on housing projects at the various power developments. And yet, despite the recommendations of this committee, they are still studying and have not come up with any actual recommendation for an increase in rentals.

I am looking forward to that announcement by the Secretary of the Army or the Secretary of Defense; 5 or 6 years of studies and a year more of studies and we still do not have anything.

Mr. RABAUT. Thank you, gentlemen.

TUESDAY, JANUARY 22, 1952.

ICE HARBOR LOCK AND DAM, WASHINGTON

Mr. RABAUT. We will take up the Ice Harbor Lock and Dam project, Washington. This is a project with an estimated Federal cost of $102,132,000; allotments have been $893,600. In the fiscal year 1952 there was no appropriation. The tentative allocation for fiscal 1953 is $5 million.

This is a new project, only 1 percent completed by the end of 1952. The request for 1953 of $5 million will bring it up to 6 percent completion. Tell us why you need this money and what you will do with the $5 million.

General CHORPENING. Ice Harbor lock and dam is one of a series of four locks and dams authorized on the Snake River; and it is a multiple-purpose project for navigation and power primarily. This would be a new start, no funds having been expended for construction. The $5 million that is being requested for this fiscal year would be utilized as indicated in the justification sheets, with a greater amount of the funds going into the cofferdam and various features of the project.

Mr. RABAUT. $2,805,000.

General CHORPENING. Yes. The reason this project is being asked for at this time is the same reason that was stated in the budget last year—power shortage in the Northwest—and due to the peculiar location of this project it will serve the Hanford area and will avoid the construction of considerable transmission lines that would otherwise have to be built.

COMPLETION DATE

Mr. RABAUT. When will the project be completed?

General CHORPENING. It is planned to have it completed in fiscal year 1957.

Mr. RABAUT. 1957.

General CHORPENING. Yes; the first power to come on the line in December of 1956.

POWER INSTALLATION

Mr. RABAUT. What would be the ultimate power to be installed in the project?

General CHORPENING. The initial installation would be three units of 65,000 kilowatts each for a total of 195,000, with an ultimate installation of four units of 65,000 each.

Mr. RABAUT. Just one to be added, with four altogether.

General CHORPENING. One to be added; yes, sir.

Mr. RABAUT. The Congress has disapproved this project so many times that it has gotten to be a habit. What has happened between last fall and now that causes you to request this item again?

General CHORPENING. The same situation with respect to power.

Mr. RABAUT. There is nothing new, then; the power shortage was the same justification presented to Congress on prior occasions?

General CHORPENING. A power shortage; that is correct. I would like to read a portion of the letter, off the record, if I may, because this is confidential information.

Mr. RABAUT. Very well.

General CHORPENING. I will read a portion of the letter from the Atomic Energy Commission.

Mr. RABAUT. Without objection, we will be glad to hear you.

(The excerpts referred to were read to the committee off the record.)

Mr. RABAUT. For security reasons, you do not feel that your statement can be placed in the record.

General CHORPENING. It is a classified letter and should not appear in the record.

INCREASED COST

Mr. RABAUT. How do you explain the increased cost of this project?

General CHORPENING. The increase in the price level in the Engineering News Index.

Mr. RABAUT. Within about the same percentage?

General CHORPENING. Yes, sir.

EFFECT ON FISHING INDUSTRY

Mr. RABAUT. Do you have any additional information this year with respect to the effect of this project on the fishing industry?

General CHORPENING. With the experience we have now had with fish ladder operations under design and under construction, we believe that there will be no difficulty at this project in the proper handling of the fish problem.

NAVIGATION BENEFITS

Mr. RABAUT. Do you have any additional information with respect to navigation benefits?

General CHORPENING. I do not think so. There have been little or no funds expended on further planning on this project since we testified last year. In October of 1951, of course, we stopped all planning on this project in accordance with the conference report of the Appropriations Committees.

Mr. RABAUT. The specific benefits claimed for this project were chiefly power and navigation.

General CHORPENING. Power and navigation.

Mr. RABAUT. Will you give us a statement of the benefits?

General CHORPENING. The average annual benefits, navigation, $1,250,000; power with three units only installed initially, $4,593,000; irrigation, $186,200; and public use $98,400, for a total of $6,127,600, and a cost to benefit ratio of 1.19 to 1.

COMPARABLE POWER RATES USED IN COMPUTING BENEFITS

Mr. RABAUT. How does the Power rate used in computing your benefits compare to that at the McNary Dam, Chief Joseph, The Dalles, and that now being used by the Bonneville Power Administration?

Colonel PAULES. The same beneficial rate.

Mr. RABAUT. The same?

Colonel PAULES. Yes, sir. They are based on the same over-all rate for the area for the power delivered to the load centers.

Mr. RABAUT. I asked for the power rate.

General CHORPENING. The power rates that were used in figuring the benefits.

Mr. RABAUT. Yes. This is the same question we have had before, and now you are computing these benefits and power rates on a new project. In other words, have you taken the present rates in developing the cost-benefit ratio used at Bonneville?

Colonel PAULES. The present-day values of power are still the same values which were used at the time of the preparation of the 308 report. These values have not been revised upward as yet. A study is in process which indicates that the values that should be credited are considerably higher than they are at the present time.

Mr. RABAUT. Suppose you supply us the power rates for each of the projects for the record.

General CHORPENING. The power rates that were used in figuring the benefits?

Mr. RABAUT. Yes; in computing the benefits, including all the charges.

General CHORPENING. We can do that.

Mr. RABAUT. There must be some little difference in the relation to costs.

General CHORPENING. Of course, the only ones we are actually making charges for now is what you want. We will put those in.

(The statement requested is as follows:)

BASIS FOR DETERMINATION OF POWER BENEFITS FOR THE DALLES, MCNARY, AND CHIEF JOSEPH PROJECTS

The value of power delivered to load centers was carefully analyzed in connection with the recent Review Report on the Columbia River and Tributaries. The value based on price levels of January 1, 1948, was 4.46 mills per kilowatt hour for power delivered to the load centers. This value is applicable to power on a load factor of 75 percent, which is equivalent to 6,570 kilowatt-hours annually for each kilowatt of dependable capacity. The value of power can be expressed as a dependable capacity value of $16.16 per kilowatt per year plus a primary energy value of 2.00 mills per kilowatt-hour. These are values for power delivered to the load center and must be adjusted for costs of transmission and power losses in transmission to the load center to obtain values at the source of generation. The average cost of transmitting power in the Pacific Northwest based on price levels of January 1, 1948, was estimated as $7.71 annually per kilowatt of dependable capacity, and the average transmission losses were estimated at 7 percent. However, some variation has been made in these latter values based upon the distance of the individual project from the load centers where the power will be used.

General CHORPENING. You only wanted the Northwest projects that are a part of this system?

Mr. RABAUT. Yes; the ones that I named, The Dalles, Chief Joseph, McNary, and Bonneville.

PROJECT AUTHORIZED

Mr. KERR. General Chorpening, when was this project authorized?

General CHORPENING. It was authorized March 2, 1945.

NAVIGATION BENEFITS ALLOCATED

Mr. DAVIS. Can we be assured that the amount of benefits that you have allocated to navigation are completely and properly allocated to Ice Harbor? You have said that this navigation does depend on the construction of other dams. Are these navigation benefits chargeable to Ice Harbor as a separate project?

General CHORPENING. I would want to check this answer, but I believe I am correct that the allocation of navigation benefits that I just read were taking the proportion of navigation benefits of the entire navigation project for the Snake River; that is all of the four reservoirs and proportionately allocating it to the construction of Ice Harbor.

Of course, in further answer to your question on navigation benefits, I must say they are based on the considered judgment as to what the commerce and traffic will be on the new waterway, and there can be no guaranty that the traffic we estimate will develop, but it is the best judgment of our people, who have made a thorough study of the matter.

Mr. DAVIS. Will there be any navigation benefits realized from the construction of Ice Harbor alone?

General CHORPENING. Very, very small navigation benefits through the construction of Ice Harbor without the furtherance of navigation projects up the Snake River, the building of the additional three reservoirs.

Mr. DAVIS. As an individual project, then if we discount the possibility of building of the other reservoirs, and discount the navigation benefits accruing to this project alone it comes very close to a 1 to 1 ratio if not below that?

General CHORPENING. That is correct. That could be figured out exactly, but it would be very close to 1 to 1.

BENEFITS DERIVED

Mr. DAVIS. Will this project actually increase the amount of tillable land, or will it simply make water cheaper to land that is already irrigated?

General CHORPENING. I believe that it is the latter: that is, it will make water cheaper and easier to get onto the land. You are talking about the irrigation features.

Mr. DAVIS. Yes. There is no return to the Federal Government for benefits derived by landowners from cheapening the water supply, is there?

General CHORPENING. I am not too familiar with the irrigation law, but I do not believe there is any return to the Federal Government in that instance. I think that as a practical matter it would be extremely difficult to work out some scheme of reimbursement by the individuals who may profit by it.

VARIATION IN POWER BENEFITS

Mr. DAVIS. Am I correct in stating that your estimate for the power benefits for the last 2 years has varied considerably from year to year?

General CHORPENING. I would have to check our record over the past years in order to answer that. I would have to make a study of what benefits we have shown in past years and why we showed them on power to factually answer the question.

Of course, Mr. Davis, as we proceed with studies on these projects and work with the Federal Power Commission oftentimes we are

able to determine that we can produce more power out of a project than we had earlier estimated could be done.

Mr. DAVIS. Suppose you insert in the record the anticipated power benefits for the last 3 years or so.

General CHORPENING. Yes; we can supply that.

(The information requested follows:)

Average annual power benefits

Fiscal year:	*Power benefits*
1951	$2, 990, 000
1952	4, 593, 000
1953	4, 593, 000

ELIMINATION OF ADDITIONAL TRANSMISSION LINES

Mr. DAVIS. The statement was made in the justification that the construction of this project would eliminate a major portion of the otherwise necessary expenditures, as estimated by the Bonneville Power Administration, of about $7 million for transmission facilities to bring power into this area from more distant sources.

These defense projects that you referred to, General, are already in existence and have, so far as we know, reached their maximum construction.

General CHORPENING. I am not aware of what plans may be in the mind of the Atomic Energy Commission for expanding their Hanford plant. I know that with the present facilities it is extremely desirable to have a power source closer to the plant.

I have a memorandum here from the Bonneville Power Administration which we received today, which gives the power situation at Ice Harbor as seen by the Bonneville Power Administration. I think perhaps it might be well to read this into the record.

Mr. KERR. Very well.

General CHORPENING. It is a little over a page.

Mr. DAVIS. Do you think it should all be read?

General CHORPENING. I can read it all; it pertains to this problem, yes. This is from a statement just received from the Bonneville Power Administration regarding the additional power supply in the Pacific Northwest and with particular reference to the Hanford area.

Recent and prospective developments in the Hanford area seriously aggravate the already critical problem of providing an adequate power supply to the area and to the Pacific Northwest generally. Electric power requirements at all load centers in the area are increasing at a far greater rate than were anticipated by load estimates. The most recent estimates of power requirements of the utilities in the area and also the Atomic Energy Commission reflects an increase of nearly twice the load previously estimated. Several factors contributing to this situation are the increased business activity in the area due to existence of the AEC Hanford works, the placing into operation in 1952 the irrigation facilities of the Columbia Basin project, and the growth in population, generally, as a result of such activity, causing power requirements to increase rapidly. Specifically, the electrical energy demands of the mid-Columbian-Pasco area, including the Hanford works, have increased some 628 percent over the 1940–50 period and the loads are estimated to increase an additional 44 percent by 1954, without taking into account any new expansions.

On the other hand power-supply capabilities will be severely reduced by reason of delays in the authorization of funds for Ice Harbor Dam, which would be located near Pasco, Wash., in the heart of the affected area. Now, there are indications of the possibility of a greatly expanded Atomic Energy Commission operation at Hanford, Wash., which would create further demands on the

region's power resources and throw an additional burden on the already overloaded Federal transmission system. The problem is further complicated by the fact that service to the Hanford area must be of an extra high order of reliability. These factors combined emphasize the need for rapidly increasing the capacity of serving the mid-Washington and north central Oregon areas. In addition, the urgency is manifest of accelerating the Federal power program in the Pacific Northwest to meet the region's industrial defense requirements.

Ice Harbor Dam is almost an ideal power supply facility in connection with service to the Hanford works of Atomic Energy Commission. No other hydroelectric plant in the Northwest power program could as effectively, except at greater cost, serve the peculiar needs of this vital definite industry. Located at the back door of the Hanford works, it could serve with an insignificant amount of additional transmission as an independent supply to the processing load. Reliability of service to the plant could be assured even with a major disturbance on the Federal high-voltage grid by reason of the fact that it could at all times be connected directly to the plant in such a way that both the Ice Harbor Dam and the plant could function on a segregated basis from the rest of the system in the event of an emergency. This aspect of service has been repeatedly emphasized by the Hanford representatives of the Atomic Energy Commission. Ice Harbor Dam would be able to supply approximately 203,000 kilowatts of firm power and 299,000 kilowatts during major emergencies which would be sufficient to provide for the present and anticipated needs of the Hanford Works.

PROGRESS OF DEVELOPMENT

Mr. DAVIS. It appears to me, General, they are awfully slow in their plans for the development of this project if they are to avoid building the transmission line that you are talking about when Ice Harbor is not going to furnish them any power until December 1956.

General CHORPENING. I inquired this morning into the matter of the $7 million that was discussed last year for transmission lines, and this information was just obtained from the Bonneville Power Administration:

That agency reports that the general load growth in the Pasco area has required that it proceed with construction at this time of a line similar to the $7 million line considered, last year, as not necessary if Ice Harbor went into service in 1955. So far as Bonneville Power Administration is concerned at this time the primary reason for their strong support for it is the statement that I have just read of the accessibility and the nearness to the Hanford plant, with the advantages that were cited in that statement.

Mr. DAVIS. They say that if there were power available by 1955, and you schedule calls for the first power to be put on the line in December 1956.

General CHORPENING. I take it from this statement that they are going to go ahead with the transmission line because they cannot wait any longer; they must proceed with that line to extend the service in this area.

So that the argument as presented last year appears to me is no longer an argument for us to use for proceeding with the Ice Harbor Dam, and that part of the justification sheet is not correct. That is why I checked on the statement, because I wanted to be certain that we are not presenting some testimony that at this moment is not correct.

ALLOTMENTS TO DATE

Mr. FORD. General, last year the testimony indicated that the Corps of Engineers had spent $1,132,600 on Ice Harbor and, according to the justifications this year, it is indicated that some $893,600 had been expended.

General CHORPENING. I believe that last year we stated there would have been expended that much by the end of the fiscal year. In any event, in view of the conference report of last October, prohibiting us from spending further money on Ice Harbor, the funds that were still unexpended we revoked at that time, which brought it down to the $893,600 which we show in our justification sheets.

PURPOSE FOR WHICH FUNDS WERE EXPENDED

Mr. FORD. The only money that has been spent so far, I take it, is for architectural and engineering services, designs, and various works?

General CHORPENING. And other planning features carried out by our district and division offices.

COST-TO-BENEFIT RATIO

Mr. FORD. Last year it was testified that the benefit-to-cost ratio was 1.30 to 1; and this year, as I understand the testimony, the benefit-to-cost ratio is stated at 1.19 to 1. Can you explain the difference?

General CHORPENING. At least a portion of it is accounted for by the fact that the cost estimate has increased; and it is possible in reevaluating the project, Mr. Davis, that we have modified the benefit-cost ratio to some extent.

As we have stated before, we try to make the best reevaluation each year on all the benefits and costs, and it is obvious the cost-benefit ratio may change either up and down annually.

Mr. FORD. The thing that confuses me about this is each year demands by Federal agencies for the construction of this project seem to get more vehement and more determined, and yet each year the benefit-to-cost ratio seems to decrease. Will you explain that?

General CHORPENING. I do not know, Mr. Ford, what happened 2 years ago; I do not know what the cost-benefit ratio was. I think quite a portion of the reduction from 1.3 to 1.19 is taken up in the increased cost of the project this last year; and there will be some further changes in the cost-benefit ratio, for instance, because at the present time there is a reevaluation of power values under way which might make a change in that situation.

Mr. FORD. General, this is going to be a project that will be under extreme controversy, I am sure, before it is approved by the Congress, and I would like you to insert in the record the mathematical basis which the Corps of Engineers used in arriving at the cost-to-benefit ratio, last year and this year.

In other words, the pure and simple mathematics by which the benefit-to-cost ratio were determined and any relevant data that would be helpful to the committee in finding out the end result that has been achieved. That would clear up the record to an appreciable degree, I believe.

General CHORPENING. We can do that. We will make it as brief as possible, because I am sure the committee does not want us to provide a long technical discussion here; you simply want it in simple terms, as simple as we can make it, so you can understand how we arrive at it.

Mr. FORD. Yes; plus some of the data on which you based the assumption for certain benefits that are a part of the benefit-to-cost ratio.

General CHORPENING. We can furnish that.
(The information requested is as follows:)

Computation of benefit/cost ratio, Ice Harbor project

	Fiscal year 1952	Fiscal year 1953
1. Benefits, average annual:		
Navigation	$1,250,000	$1,250,000
Power	4,593,000	4,593,000
Irrigation and recreation	269,000	284,600
Total	6,112,000	6,127,600
2. Estimated cost	95,899,000	102,132,000
3. Average annual charges	4,680,000	5,137,000
4. Benefit/cost ratio	1.3	1.19

Navigation.—The Ice Harbor project is an essential unit of the navigational development program of the lower 360 miles of the Columbia River and the lower 190 miles of the Snake River which is tributary thereto. Ice Harbor is the farthest downstream unit of the authorized plan to provide slack water navigation on the Snake River. Navigation on the lower Snake River will benefit central and northern Idaho, eastern Oregon, southeastern Washington, and northeastern Montana. Average annual commerce on and through the Ice Harbor pool over the life of the project is estimated at 2,547,000 tons and will consist of the upstream movement of petroleum products, machinery, building materials, and manufactured products, and the downstream movement of limestone, ores, agricultural products, and timber. Average annual navigation benefits for Ice Harbor, based on savings in transportation costs, are estimated at $1,250,000.

Irrigation and recreation.—Construction of the Ice Harbor Dam will reduce irrigation pumping lifts in the Snake River along the reservoir shore line thereby providing substantial reduction in pumping costs for the irrigation development of 126,000 acres of land, most of which is near the mouth of the Snake River. Important incidental benefits will also accrue to the project from recreational and wildlife uses of the reservoir area. These benefits are estimated at $186,200 and $98,400, respectively.

Power.—An initial installation of 195,000 kilowatts in three 65,000-kilowatt units will be provided. The powerhouse is planned for five units of 65,000 kilowatts to provide for additional capacity when future conditions warrant. With the initial installation and before additional upstream storage regulation is provided, the Ice Harbor project will make available an average of 1,430,000,000 kilowatt-hours per year of which 1,180,000,000 kilowatt-hours will be primary energy. The dependable capacity of the plant associated with this primary energy will be 175,000 kilowatts.

The value of power delivered to load centers was carefully analyzed in connection with the recent Review Report of the Columbia River and Tributaries. The value based on price levels of January 1, 1948, was 4.46 mills per kilowatt-hour for power delivered to the load centers. This value is applicable to power on a load factor of 75 percent, which is equivalent to 6,570 kilowatt-hours anually for each kilowatt of dependable capacity. The value of power can be expressed as a dependable capacity value of $16.16 per kilowatt per year plus a primary energy value of 2 mills per kilowatt-hour. These are values for power delivered to the load center and must be adjusted for costs of transmission and power losses in transmission to the load center to obtain values at the source of generation. Allowing 3 percent for losses in transmitting the power to the nearby market of the Pasco-Kennewick-Richland defense area, the dependable capacity of 175,000 kilowatts and the primary energy of 1,180,000,000 kilowatt-hours per year would have a gross annual value of $5,030,000. The estimated annual cost of transmission is $437,000. Accordingly, the net annual value of the power is estimated at $4,593,000 annually.

It may be noted that the power values are based upon price levels of January 1, 1948. Those values are presently under review. Although that review is not completed ,it indicates that the value should be increased substantially.

CHANGE IN PERCENTAGE OF BENEFITS

Mr. FORD. Has there been a change in the percentage of benefits? Last year navigation was 20.3; power, 75.3; irrigation, 2.9; and recreation, 1.5. As I recall the figures you mentioned in answer to Mr. Davis last year there was some variation in the benefits to be derived.

General CHORPENING. It is very slight. I can give you the percentages: Navigation, 20.4; power, 75; irrigation, 3.0; public use, 1.6.

FISHERIES PROBLEM

Mr. FORD. Do you have any further evidence concerning the fisheries problem in reference to this particular project?

General CHORPENING. I have no knowledge of any additional developments in connection with the fisheries problem at this project.

Mr. FORD. Has there been any increase in the catch on the Columbia?

Colonel Potter last year gave the value at approximately $8 million a year.

General CHORPENING. We can provide that for the record. I think it was requested in connection with McNary, Mr. Chairman.

Mr. FORD. The estimated cost of this project is $102,132,000. What is the current estimated cost of the Lower Monumental Dam?

Colonel MILNE. $92,614,000.

Mr. FORD. Last year the estimated cost was given as $87 million, according to the figures supplied by Colonel Potter. How is the increase in cost explained?

General CHORPENING. That is the increase to meet the Engineering News Index cost.

ESTIMATED COST OF LITTLE GOOSE

Mr. FORD. What is the current estimated cost of Little Goose?

Colonel MILNE. $104,335,000.

Mr. FORD. Compared with $98 million last year. Is that just on the basis of the Engineering News Index?

General CHORPENING. That is correct.

Mr. FORD. And what was the estimated cost of the Lower Granite?

Colonel MILNE. $87,306,000.

Mr. FORD. And last year it was $82 million. Is the increase accounted for by the Engineering News Index?

General CHORPENING. That is correct.

Mr. FORD. Are the percentages of benefit-cost ratio the same on all four projects?

General CHORPENING. I think that they are roughly the same, and perhaps somewhat less than last year, due to the increase in the estimated cost of the project.

Mr. FORD. Are all of these projects multiple-purpose projects?

General CHORPENING. They are all for multiple-purpose projects, primarily navigation and power.

POWER NEEDS

Mr. FORD. Is there a need for power from these projects?

General CHORPENING. We have had no urgent request or requests for the construction of the others to my knowledge to this time. The

Bonneville Power Administration has these projects in mind in their long-range plans to bring them in at some later date—rather, a request that they be brought in at some later date.

BUILDINGS AND GROUND EXPENDITURES

Mr. FORD. Last year there was some discussion about buildings and ground expenditures. The justification then provided for $3,412,000; and these justifications for fiscal year 1953 include an estimate of $3,523,000.

Will you give us some detail information either now or to be furnished later, on the particular phase of construction?

General CHORPENING. The amount of the $3,523,000 that is included in the fiscal year 1953 request is $120,000; and with that amount we expect to put up a temporary office building, improve county roads to give us access, and put in a well with pumps.

Mr. FORD. The request is not for housing utilities?

General CHORPENING. Only for an office building at this time. The rest I can furnish later. I do not have the breakdown with me on that. I can furnish it for the record, as to what we are contemplating with the remainder of the over-all amount of funds.

Mr. FORD. If included in the $3,523,000 are funds for housing facilities, would you give us a breakdown of the kind of facilities, the proposed rent and the proposed cost of the units, and so on?

General CHORPENING. Yes, sir.

(The information requested follows:)

The followng is a breakdown of the "Buildings and grounds" item on the justification sheet for the Ice Harbor lock and dam:

(1) Buildings:	
(*a*) 40 3-bedroom permanent houses, at $18,000 each	$720,000
(*b*) Administration building, permanent shop, warehouse, and overlook building	1,345,000
(*c*) Temporary buildings	154,000
Total buildings	2,219,000
(2) Grounds: (*a*) Utilities and landscaping	1,304,000
Total	3,523,000

NOTE.—The 3-bedroom houses will rent for $40 per month, plus about $10 a month for utilities, if furnished. These estimated rentals are based on existing policy, which has been recommended by the Chief of Engineers to be modified.

SNAKE RIVER TRAFFIC

Mr. FORD. Last year we did not seem to get any information, as I recall the testimony, as to what kind of traffic is presently on the Snake River and what kind of traffic is anticipated.

Colonel MILNE. There is practically no traffic on the Snake River at the present time. Our surveys in connection with the development of the Snake River have indicated that with improvements that have been authorized by the Congress, that a potential of 2.5 million tons of traffic would develop annually over the life of the project and will consist primarily of petroleum products, machinery, building materials, limestone.

Mr. FORD. Would that be both up and down?

Colonel MILNE. Yes, sir. Both up and down.

Mr. FORD. How do they operate the traffic presently?

Colonel MILNE. Much of the potential traffic is for new development. In other words, the development of waterways with lower cost of transportation, should enable the shipment downstream of products such as limestone and timber. The petroleum that would be going upstream is probably now handled by other means.

COMPLETION OF OTHER DAMS

Mr. FORD. Last year it was testified you contemplated completing Lower Monumental in December of 1957; Little Goose in December of 1958; and Lower Granite in December of 1959. Is there any change in that schedule?

General CHORPENING. The present long-range plan would look toward the completion of Lower Monumental in August of 1959; Little Goose in August of 1960, and Lower Granite, August of 1961.

BENEFIT-COST RATIO

Mr. FORD. If you took the entire potential navigational benefits from Ice Harbor, what do you anticipate the benefit-cost ratio would be?

General CHORPENING. It would be, I think, near 1.0 to 1.0.

Mr. FORD. Last year it was testified it would be 1.04. The increased cost of the project would bring it practically to unity?

General CHORPENING. Yes, sir.

Mr. FORD. In all fairness, based on the justifications only for the project, it would seem to me that the only benefit is power.

General CHORPENING. Until the other projects are constructed upstream, the only benefit is power, yes, and of course, a nominal amount for irrigation and a little for public use.

Mr. FORD. If the other projects are not built and Ice Harbor is constructed, in determining the cost of the power, and the revenue to be derived therefrom, would that fact be taken into consideration?

Colonel MILNE. No, sir; power should not be charged with the additional cost of construction, which were not essential to produce the power.

Mr. FORD. If the other three projects were not constructed, you would get no navigation benefits, the Government would only get benefits from power, and yet the power charges would not be sufficient to pay off the Government's investment.

General CHORPENING. I believe, Mr. Ford, it goes back to the authorization of the project by the Congress, which has authorized the project for navigation and for power. If the Congress then gives us funds to proceed without changing the authorization previously given, we are compelled to build in the navigation, and I therefore think that to charge all of the cost of the work to power would take further legislative action by the Congress.

(Off-record discussion.)

VARIATION IN COST

Mr. FORD. If you constructed this project without the navigation feature, how much difference would there be in the cost?

General CHORPENING. That figure would have to be refined by an over-all study of just what the navigation features are that are included but, as a rough statement, around $16 million.

Mr. FORD. In other words, if Ice Harbor were constructed without the navigation feature, the cost would be approximately $16 million less?

General CHORPENING. Yes, sir.

Mr. FORD. What is the contemplated schedule of appropriations for Ice Harbor based on this justification?

General CHORPENING. For 1954, $22 million; for 1955, $27 million; for 1956, $29 million; for 1957, $18,238,400.

Mr. FORD. Is navigation on the Snake River possible 12 months in the year?

General CHORPENING. I do not know whether the Snake River freezes over in the winter time or not. We will furnish that information.

(The information requested is as follows:)

The Snake River is navigable the entire year, except for short periods in some years due to ice conditions.

Mr. FORD. That is all.

ELECTRIC POWER ADVISORY COMMITTEE

Mr. DAVIS. Before we leave this particular project and the Northwest area in general, I would like to get your comments on this report of the Electric Power Advisory Committee which reported to the Defense Production Administration on the results of—and I quote from the letter transmitting the report—

three months of intensive inquiry based in part on a new Nation-wide survey of load and capacity conducted by Defense Electric Power Administration with our active participation.

The report is accompanied by a map which sets forth eight regional groups of power supply areas. Region No. 7 includes roughly the States of Washington, Oregon, Idaho, Montana, and Utah. The report states—and bear in mind now that this is dated December 31, 1951, and I quote directly from that report.

By 1954 region 7 would show a slight surplus unless adverse hydro conditions occurred in which case it would show a deficit. With new capacity as now planned it begins to show a safer margin of surplus in 1955 and still more in 1956.

Your justifications show that Ice Harbor will not begin to produce any power until December of 1956. If this report is correct, does not that pretty well undermine the contention that Ice Harbor is an urgent necessity for the power needs of the Northwest?

General CHORPENING. May I ask Colonel Paules to answer that question?

Colonel PAULES. I might point out that the report of the Electric Power Advisory Committee was just made a short time ago and came into our office a matter of about a week ago. We are preparing our comments on it to the DPA and have not completed them as yet. However, this report is based on a report of the Defense Electric Power Administration dated December 13, 1951.

The DEPA figures I am confident include some earlier schedules contemplating the completion of Ice Harbor power in 1955 and also at Dalles in 1956. The fact that those projects will not be completed on time will materially reduce the margin of capability over the capacity requirements in the median hydro year.

ELECTRIC POWER

This report points out that the planned plant installation in the United States in the next 3 years is, if anything, too small. However, they have doubted that more than that can be installed in the United States. They have suggested that in the areas where that power is most needed, some transfer of turbine, boiler, and other planned capacity might be made to take care of the local needs for defense purposes.

You know the Northwest area is principally hydro. It is a long-range development. The difficulties of installing additional kilowatts in the United States at this time are principally from the difficulty of building sufficient boilers and turbines for steam generating plants.

Mr. DAVIS. Would you say that the supply situation with respect to them is more critical than is the situation with respect to steel and concrete that would be required for the production of hydroelectric power?

Colonel PAULES. Yes, sir.

Mr. DAVIS. I am wondering on what you base that affirmative answer.

Colonel PAULES. Because the building of steam electric capacity requires considerable amounts of the more critical materials for the boiler tubes and for the steam turbines and this requirement then is occasioned in a hydro turbine. There has not been serious shortage to date for reinforcing steel which we use to a large extent in the building of a hydroelectric power project.

(Discussion off the record.)

Mr. RABAUT. How does this compare with the tonnage of coal that would be necessary to generate this power at any of these dams?

Colonel PAULES. A rough approximation of the amount of coal which would be required for the production of power equal to that from one of the major projects on the Columbia River such as The Dalles, McNary, or Chief Joseph, would amount to the order of about 10,000 tons of coal per day for each project.

Mr. FORD. How much did the Corps of Engineers request for this project of the Bureau of the Budget?

General CHORPENING. We asked for $5 million. I believe that was $3 million within ceiling and $2 million over ceiling. I will check that and if those figures are not correct, revise them for the record.

EFFECT OF PROJECT ON FISHING INDUSTRY

Mr. RABAUT. I notice that the total height of the dams on the Columbia and the Lower Snake River is 760 feet. The highest existing fish ladder in the world today is at Bonneville, which is 65 feet and the downstream fish loss, is 15 percent. As we progress up this river and gain this height of 760 feet—up the Columbia and the Lower Snake—we get these different elevations: Bonneville, which has been completed, 65 feet; The Dalles, 88 feet; John Day, 132 feet; McNary, 100 feet; Ice Harbor, 100 feet; the Lower Monumental, 93 feet; Little Goose, 100 feet; and the Lower Granite, 82 feet. It seems to me, inasmuch as we are going up in the fourth dam, to 100 feet, with the construction of McNary, that we ought to find out what the fish loss is going to be when we get McNary completed. There must be a tiring

effect upon the fish going up the river, in the vicinity of The Dalles or McNary or Ice Harbor or any of these other places where above McNary, they are going to have two jumps, one of 65 feet and one of 100 feet. And if you go ahead with The Dalles, we will have one of 88 feet. So that the fish loss is going to be something which should be determined.

The fishing industry on these rivers is valued at over $17 million and this is something that should receive very serious consideration by this committee. While we are not dealing with the fish and wildlife appropriation at the present time, it does have its bearing upon the matter of the construction of these dams.

General CHORPENING. Yes, sir. I would like to make a brief statement in connection with that.

But we have never gotten any answer as to just how that 15 percent is arrived at. There may be some loss, but I do not believe that it is——

Mr. RABAUT. Will you insert in the record some comment on this matter, because there is a relationship between the loss of this natural food product, and the construction of these dams. This is a reoccurring value. There is a $17-million industry here and that recurs, or would be expected to recur unless there were some enemy of the fish that wiped them out.

If these dams are going to be destructive, certainly that matter will have to be given some consideration. That is the reason I bring it up because it enters into the study whether or not these fish can go up 760 feet. I do not know whether any of them would get past Lower Granite or not.

General CHORPENING. I agree with you that it must have very thorough and serious study, but we have given study to it and shall give more. I would like to make this observation, that whether you have the dams or not, the fish still have got to go 760 feet.

Mr. RABAUT. Please furnish your comments on this situation for the record.

General CHORPENING. Yes, sir.

(The information requested appears as follows:)

Annual records of the daily count of fish passing over the Bonneville Dam have been maintained by the Corps of Engineers since the dam was placed in operation in 1938. A continuing study of the downstream escapement of fingerling fish at Bonneville Dam has been made by the Fish and Wildlife Service since the dam was placed in operation in 1938. Detailed studies have been made of the runs of fish from 1935 to 1937, prior to construction of Bonneville Dam, and compared with runs for 1938 to 1941 following construction of the dam. The information to date shows no significant diminution of annual runs of fish passing over the Bonneville Dam due to the effects of the dam. A report published in 1950 by the Fish and Wildlife Service, on Fluctuations and Abundance of Columbia River Chinook Salmon, 1933–45, concludes that no significant effect of Bonneville Dam could be demonstrated either by comparing returns of fish or by comparing ratios of returns to escapement of fingerlings.

JUSTIFICATION OF COSTS

General CHORPENING. Mr. Chairman, may I make a brief statement at this time, since we have completed the projects for which we are asking construction funds?

Mr. RABAUT. Yes.

General CHORPENING. Some of the projects that we have considered have had increases in cost; some of them greater than the percentage of the Engineering News Index increase as stated by General Pick to be 5.8 percent since last year. Some of our projects have remained the same and a few have shown a decrease in cost.

I have had the entire river and harbor program analyzed and the unobligated funds as of June 1950, added to the amount under those estimates required to complete the projects, compared with the estimates this year, I find that the difference between those two sums, shows that the over-all increase has been 6.1 percent. I point that out to show that the over-all program under "Rivers and harbors," costs have increased 6.1 percent as against the Engineering News Index increase in that year of 5.8 percent. So I think that the over-all picture of our program during the past year has shown only an increase such as you would expect to have as an over-all proposition.

Mr. FORD. I notice on page 131 of the justifications at the very bottom of the page there is a title "Total construction program" and the figures come thereafter. What is that?

General CHORPENING. That is a total of all 26 projects that we have defended for construction.

Mr. FORD. In other words, that is a recapitulation of the entire program for river and harbor development?

General CHORPENING. Just for the construction projects for which we are requesting funds.

Mr. FORD. That recapitulation shows the total estimated Federal cost for all the projects is $1,894,475,200; allotments to date, $782,480,870; tentative allocations for the fiscal year 1953, $208,686,000; and the additional amount to complete after fiscal 1953, $903,308,330.

General CHORPENING. Yes, sir.

PLANNING

Mr. RABAUT. We turn now to "Planning." Please file for the record a table similar to the one filed last year for flood-control planning projects.

General CHORPENING. We shall do that; yes, sir.

(The information requested is as follows:)

Planning projects in 1953 budget, river and harbor

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio (percent)	Breakdown of benefits	Percent	Power installation contemplated (kilowatts)	Percentage of completion of plans [1]	National defense aspects
ALABAMA										
Howell Mill Shoals, part of Alabama-Coosa River.	River and Harbor Act, Mar. 2, 1945.	(2)	$94,559,000	$100,000	1.19:1	Flood control Navigation Power	3.3 13.7 83.0	200,000	38.0	Howell Mill Shoals Dam, a multiple-purpose project on the Coosa River, is a unit of the initial phase of development on the Alabama-Coosa River. The industries in the Alabama-Coosa Basin are rapidly increasing and the early provision of additional power generation in the Birmingham and Montgomery areas will substantially aid and increase industrial growth and thereby aid the national defense program.
Upper Columbia lock and dam, part of Apalachicola, Chattahoochee, and Flint River system.	River and Harbor Act, July 24, 1946.	$30,400,000	47,164,000	75,000	1.12:1	Flood control and other. Navigation Power	2.4 17.1 80.5	65,000	23.2	Upper Columbia lock and dam will be a multiple-purpose navigation and power project on the Chattahoochee River. In addition to providing more economical transportation, this project will provide a large block of hydroelectric power in an area where it is urgently needed.
New lock and dam No. 8 (Warrior lock and dam), Black Warrior, Warrior and Tombigbee River system.	River and Harbor Act, Mar. 3, 1909.[3]	(2)	19,100,000	75,000	1.27:1	Navigation	100.0	----------	----------	This project is considered to be very important from a national defense standpoint in the movement of critical materials to and from the highly industrialized steel-producing center of Birmingham. The project is also needed because of the immediate prospective movement of 1,250,000 tons of iron ore annually from South America to the steel mills of Birmingham.
ARKANSAS										
[illegible]	River and Harbor Act,	$29,350,000	$139,477,000	50,000	(4)	(4)			11.5	Continuation of a limited pro-
taries, Arkansas and Oklahoma.	July 24, 1946, modified by May 17, 1950.									gram of bank stabilization and channel rectification at

ARKANSAS										ica to the steel mills of Birmingham.
taries, Arkansas and Oklahoma.	July 24, 1946, modified by May 17, 1950.									gram of bank stabilization and channel rectification at the more critical locations along the Arkansas River is of major importance in connection with the safety of communities, flood-control levees, utilities, of national importance and the preservation of a river regimen suitable for future navigation.[6]
KENTUCKY										
Celina Dam, Ky., part of Cumberland River Basin.	River and Harbor Act, July 24, 1946.	16,900,000	34,050,000	50,000	1.22:1	Power	100.0	64,800	5.5	Requirements of the region in general are rapidly increasing with a power shortage imminent unless new sources of generating capacity are rapidly made available, this impending shortage being due in large measure to the expanding demands of industries and installations directly connected with the national defense effort.
Fernbank lock and dam, (Markland site), Indiana, Ohio, and Kentucky.	River and Harbor Act, Mar. 3, 1909.[3]	[6]41,000,000	69,500,000	100,000	1.3:1	Navigation	100.0		13.2	Early replacement of locks and dams Nos. 35, 36, 37, 38, and 39, especially No. 37 is absolutely necessary to the efficient and economical maintenance and operation of this very important portion of the Ohio River waterway. All of the structures noted above are no longer adequate for modern tows now in use and are considered outdated in design. In view of the urgently needed critical materials transported on this river, the project is important to the defense effort.
Greenup lock and dam, Kentucky and Ohio.	do	40,000,000	52,730,000	75,000	1.33:1	do	100.0		29.3	During World War II millions of tons of petroleum products and other essential war materials, such as sulfur, coal, steel products, and chemicals, were transported on the Ohio River. This project will replace inadequate low-lift structures in one of the most heavily used reaches on Ohio River, as well as replace lock and dam No. 1 on the Big Sandy River.

Footnotes at end of table, p. 195.

Planning projects in 1953 budget, river and harbor—Continued

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio (percent)	Breakdown of benefits	Percent	Power installation contemplated (kilowatts)	Percentage of completion of plans [1]	National defense aspects
MONTANA										
Fort Peck Dam (second power plant).	Rivers and Harbor Act, May 18, 1938.	$21,000,000	$21,000,000	$25,000	1.5:1	Power	100.0	80,000		The hydroelectric plant at Fort Peck is connected to the Northwest power pool, which includes facilities in Washington, Oregon, Idaho, Montana, and other adjacent States and is used to mitigate the power shortage in this pool during peak load periods. Throughout World War II, full generating capacity of the existing plant was furnished to Northwest power pool, which serves extensive copper and aluminum refining industries, numerous other factories, electric railroads, and towns and extensive highly developed agricultural areas.
OHIO										
New Cumberland lock and dam, Ohio and West Virginia.	Rivers and Harbor Act, Mar. 3, 1909.[3]	18,650,000	43,000,000	100,000	1.2:1	Navigation	100.0		27.6	New Cumberland lock and dam will replace existing locks and dams Nos. 7, 8, and 9, which were constructed in the period 1904–14. It will result in savings due to fewer lockages, lower tow resistance due to increased depth of pool, and lower terminal cost. The project is important to the defense effort in view of the urgently needed critical materials transported on this river.
TENNESSEE										
Carthage Dam, part of Cumberland River Basin.	River and Harbor Act, July 24, 1946.	19,900,000	39,800,000	90,000	1.52:1	Power	100.0	92,000	20.0	The electric energy to be produced at this project is urgently needed in the rapidly expanding power

Cumberland River Basin.	July 24, 1946.									duced at this project is urgently needed in the rapidly expanding power markets of the general area. The Tennessee Valley Authority, the Federal Power Commission, and the Southern Power Administration have indicated that the expected increase in power requirements of the TVA system will be at least 650,000 kilowatts in 1953 and 600,000 kilowatts in 1954. These large increases in power demand result from the impact of the defense effort in this region.
TEXAS										
McGee Bend Dam	River and Harbor Act, Mar. 2, 1945.	12, 218, 600	42, 243, 600	25, 000	1. 41:1	Flood control Navigation Power Water supply Recreation	6. 0 1. 0 23. 0 55. 0 15. 0	28, 800	59. 3	The project would provide an assured water supply for present and future demands for municipal and industrial use in the Beaumont-Port Arthur area. During the past war, this area had established itself as an important center for war and defense industries and its growth and development for such industries has continued during the period since the war.
WEST VIRGINIA										
Monongahela River, Hildebrand lock and dam.	River and Harbor Act, May 17, 1950.	13, 094, 000	14, 865, 000	35, 000	1. 84:1	Navigation	100. 0		21. 0	Hildebrand lock and dam is an integral unit of the authorized navigation project for the improvement of the upper Monongahela River. The proposed improvement of the upper Monongahela River would provide a modern water transportation facility for the important Fairmount coal-producing district, vital to the down-river industrialized area and to the national defense effort.

[1] End of fiscal year 1952.
[2] No specific projects were named in the authorizing document and no specific estimates were given for individual projects.
[3] Replacement authorization.
[4] Emergency work under way.
[5] Obligation incurred on all phases of the comprehensive plan.
[6] Estimate for Fornbank site based on 1949 prices.

STATUS OF OBLIGATIONS

Mr. RABAUT. List for the record your planning obligations annually for the last five fiscal years.

General CHORPENING. Yes, sir.

(The information requested appears as follows:)

Planning obligations annually for the past 5 years

	Amount
1947	(1)
1948	(1)
1949	$1,924,000
1950	1,285,000
1951	820,212

[1] Data are not available on obligations for planning only in these years as the budget activity classified as "Improvement" included both planning and construction.

Mr. RABAUT. List for the record your unobligated balances for planning as of June 30, 1951; also as of December 31, 1951, and estimate it for June 30, 1952.

General CHORPENING. Yes, sir.

(The information requested appears as follows:)

Unobligated balances of river and harbor planning projects in 1953 budget

Project	Unobligated June 30, 1951	Unobligated Dec. 31, 1951	Estimate unobligated on June 30, 1952
Alabama:			
Howell Mill Shoals, part of Alabama-Coosa Rivers	$191,423	$94,845	$11,000
Upper Columbia Lock and Dam, part of Apalachicola, Chattahoochee and Flint Rivers	287,645	272,921	15,000
New Lock and Dam (Warrior Lock and Dam), Black Warrior, Warrior, and Tombigbee Rivers			
Arkansas: Arkansas River and tributaries, Ark. and Okla. (emergency bank stabilization)	55,933	20,148	
Kentucky:			
Celina Dam (part of Cumberland Basin)			4,000
Fernbank Lock and Dam (Markland site)	53,030	100,201	5,000
Greenup Lock and Dam	60,928	121,480	
Montana: Fort Peck (second power plant)			
Ohio: New Cumberland lock and dam, Ohio and West Virginia	38,718	38,697	1,000
Tennessee: Carthage Dam, part of Cumberland Basin			5,000
Texas: McGee Bend Dam	143,169	115,671	
West Virginia: Monongahela River: Hildebrand lock and dam			2,000
Others	1,123,613	854,656	522,000
Total	1,954,459	1,618,619	565,000

Mr. RABAUT. In the estimates there are listed the tentative allocations for the fiscal year 1953 for 12 projects, the total of which is $800,000.

HOWELL MILL SHOALS DAM, ALA. AND GA.

Let us have your statement on Howell Mill Shoals Dam, part of the Alabama-Coosa Rivers system, Alabama and Georgia.

General CHORPENING. Howell Mill Shoals Dam is located on the Coosa River in Alabama. It is a multiple-purpose project; navigation, flood control, and power. The power there is particularly desirable in an area which is facing now, and will even more in the future, a distinct power shortage.

It will be noted that the allotments to date for planning on this project have been $884,600 and this $100,000 that is tentatively allocated to the project for 1953 will bring us to a position where, should we be directed, we could proceed to construction.

This project I noted from the record was quite fully discussed last year.

Mr. FORD. What is the benefit-cost ratio on this project?

General CHORPENING. 1.19 to 1.

UPPER COLUMBIA LOCK AND DAM, GA. AND ALA.

Mr. RABAUT. Upper Columbia lock and dam, part of Apalachicola, Chattahoochee, and Flint Rivers system, Alabama and Georgia. Make a general statement on that, please, General.

General CHORPENING. The Upper Columbia lock and dam is on the Chattahoochee River, one of the four units for the comprehensive development of that stream for navigation and power. Jim Woodruf Dam is now under construction and this is the next in the series upstream from that point. It will be noted that we have already had allotments of $467,100 and the tentative allocation for fiscal 1953 is $75,000.

Mr. RABAUT. What foundation conditions have been disclosed at the proposed dam site?

General CHORPENING. Earlier I gave information here about some difficulties that we had been having with the foundation at Jim Woodruf Dam, the first of the series. However, there is little similarity between the foundation conditions that exist at Jim Woodruf and at the Upper Columbia site.

The Jim Woodruf Dam is founded entirely on Tampa limestone, a formation which is noted for its extensive weathering and extreme variation of hardness, causing that dental excavation that I explained. This same situation will not exist at the Upper Columbia site where the principal engineering problem will be developing a design for the locks which is adapted to what is known as the McBean formation. That is a geological term. That contains sands, limestones, and zones of cemented sand and silt. We have more than an ordinary foundation problem there, we know that. We do not, however, anticipate that we are going to have undue difficulty in getting a satisfactory foundation there.

Mr. RABAUT. Was the Chief of Engineers apprised of these conditions when they were discovered or even prior to submission of the President's budget?

General CHORPENING. I do not know that the Chief of Engineers personally was advised of that; no, sir.

Mr. RABAUT. Will this foundation condition be worse at the Columbia site than it was at Jim Woodruf?

General CHORPENING. From what I know of the problem I do not think it will be any more expensive. However, I must say this, that in all foundation problems, any engineer who says he knows exactly what his costs are going to be before he has opened up the foundation, is just talking through his hat.

Mr. DAVIS. That means, General, that your estimated total cost is far from a firm figure?

General CHORPENING. At this time we are still in the process of making our planning studies. It is not and it cannot be as firm as we will make it when we have completed them. Of course, as we proceed with these projects, the nearer we get to the end, the more firm will be our figure and the less the amount of contingencies that we have to carry.

Mr. RABAUT. What is the status of the definite project report?

General CHORPENING. Those studies are well along but we do not anticipate we will be able to complete them unless we secure these funds in 1953. With these funds we will be able to complete the definite project studies.

NEW LOCK AND DAM NO. 8 (WARRIOR RIVER LOCK AND DAM)

Mr. RABAUT. The next item is "New lock and dam No. 8" (Warrior River lock and dam), Black Warrior, Warrior, and Tombigbee Rivers system.

You have a tentative allocation for 1953 of $75,000. Will you give us a general statement on this project?

General CHORPENING. This new lock and dam No. 8 on the Warrior River will be a replacement lock and dam for, I believe, two existing locks which are obsolete, built many, many years ago. It is a continuation of the replacement program as explained in connection with the Demopolis Dam. We have already completed the lock and dam at Tuscaloosa.

Mr. RABAUT. What savings will accrue as a result of this project?

General CHORPENING. The benefits will result entirely from navigation and we estimate the annual benefits will be $1,097,000.

Mr. RABAUT. How does the priority of this lock and dam compare to the other ones on the same waterway, especially lock 7.

General CHORPENING. This lock and dam No. 8 in our judgment is the next one that should be built in the modernization of the waterway.

ARKANSAS RIVER AND TRIBUTARIES, ARK. AND OKLA.

Mr. RABAUT. Item No. 4 is "Arkansas River and tributaries, Arkansas and Oklahoma, bank stabilization and channel rectification." Will you give us a statement on this item, General?

General CHORPENING. We have had allotments to date of $623,700 and our tentative allocation for the fiscal year 1953 is $50,000. The committee will recall my rather extensive testimony in connection with the emergency stabilization program on the Arkansas River.

These funds requested will enable us to do such field work as may be essential to keep abreast of emergency situations as they arise and make some proper plans if required for handling the problem and estimates that we might submit for construction. Of course, the over-all navigation problem on the Arkansas is a tremendous one and this small amount here will make practically no headway on the over-all investigations on the navigation scheme of the Arkansas River.

FERNBANK LOCK AND DAM, OHIO RIVER, IND. AND OHIO

Mr. RABAUT. Item No. 5 is the Fernbank lock and dam (Markland site), Ohio River, Indiana, and Ohio.

General CHORPENING. For this we have had an allotment of $149,500 and our tentative allocation is $100,000. As the committee well knows, the Ohio River is one of our most important and extensively used waterways. The locks and dams there are getting old and the facilities in the way of size and locations are quite inadequate for modern barge transportation. The Fernbank lock and dam will replace five existing locks and dams.

Mr. DAVIS. I note that the estimated cost has gone up from $52,540,000 to $69,500,000 in the course of a year. I think we ought to have an explanation of that.

General CHORPENING. Last year our planning had not gone very far and at that time we were contemplating the location of this lock and dam at a site that would only eliminate four existing locks and dams. Further studies indicated the desirability and economies of a lock and dam that could replace five existing structures. So we have therefore proposed a lock and dam with a higher pool and greater size than was contemplated last year.

Mr. RABAUT. Will that prove more economical?

General CHORPENING. We feel that it is a more sensible and feasible arrangement than putting in one that will only replace four. We have studied the matter and concluded that what we now propose is the proper solution. It will eliminate replacement of a lock and dam that we had originally proposed.

Mr. DAVIS. General, does that get you into any authorization problem?

General CHORPENING. No, sir. We have authority, under the Rivers and Harbors Act of March 3, 1909, to replace existing structures on navigation projects when, in the opinion of the Chief of Engineers, such replacement is justifiable.

Mr. DAVIS. And that has been interpreted to mean that you are authorized to build a different number of dams at different sites from those that exist?

General CHORPENING. Yes, sir. And I may say further, Mr. Davis, that in connection with building new locks and dams which in these instances will replace three or four or five other structures, we hold extensive conferences and hearings with the local people, particularly the navigation interests to get their views, as to whether they, the people served, believe that this is the thing to do.

CELINA DAM, CUMBERLAND RIVER, KY.

Mr. RABAUT. The next item is the Celina Dam, Cumberland River.

General CHORPENING. The next item is the Celina Dam on the Cumberland River in Kentucky. We have had allotments to date of $50,000 and our tentative allocation for the fiscal year 1953 is $50,000.

The Celina Dam is authorized for the production of hydroelectric power. Again we are asking for funds for this project and we think it should be pushed along because it is known that there is a power shortage in the area of the Tennessee Valley Authority and that Authority is urging that we push this project along.

Mr. KERR. How far is this Celina Dam from Nashville?

Colonel PAULES. It is 192 miles from Nashville.

General CHORPENING. Upstream from Nashville.

GREENUP LOCK AND DAM, OHIO RIVER, KY. AND OHIO

Mr. RABAUT. Item No. 7 is the Greenup lock and dam, Ohio River, Ky., and Ohio.

General CHORPENING. We have had allotments of $146,500 on this and our tentative allocation for fiscal 1953 is $75,000.

The same general remarks that I made about the Fernbank lock and dam apply here. In this instance, this proposed lock and dam will replace four locks and dams on the Ohio River and one on the Big Sandy River. The old structures are obsolescent and inadequate for modern transportation.

Mr. DAVIS. Has there been a change in plans with respect to this project, too, General?

General CHORPENING. Not that I know of.

Mr. DAVIS. Then what is the explanation for the fact that in fiscal year 1951 the estimated cost was $40 million; the figure of the estimated cost for fiscal 1952 was $46.5 million and in 1953 the estimated cost is $52.7 million.

General CHORPENING. A considerable part of that increase is of course the rise in construction costs. In addition to that, since we started the study of this lock we are contemplating a somewhat larger lock than we originally considered would be adequate. I do not have at this moment the breakdown, but I think I could supply it for the record as to the part of the amount that is due to the increase in cost and that which is due to changes in our thinking as to the facilities that should be embodied in the new structure.

Mr. DAVIS. Certainly the increase in cost would not explain a $12 million increase in the estimate in 2 years. There must have been some change in plans involved.

General CHORPENING. I think so. I think in the 2 years there has been something like a 12- or 15-percent increase in cost. I do not know the exact percentage.

(The information requested appears as follows:)

The authorized estimate for Greenup lock and dam based on May 1949 prices was $40,000,000. The estimate used in support of the 1952 budget was $46,550,000, based on a report to the Board of Engineers for Rivers and Harbors and November 1949 prices. This entire increase was due to the enlargement of the locks and the change in the type of the dam. The present estimate of $52,730,000 showing an increase of $6,180,000 over the previous estimate is due entirely to the ENR index price level changes of about 13.0 percent between November 1949 and July 1950.

FORT PECK DAM, MISSOURI RIVER

Mr. RABAUT. The next item is Fort Peck Dam, Missouri River.

General CHORPENING. The next item on the list is Fort Peck Dam on the Missouri River, the second power plant. We have had no allotments to date and the tentative allocation for fiscal year 1953 is $25,000. At the present time the Fort Peck Dam is producing power. We have installed 85,000 kilowatts of power. It has been determined that by converting tunnel No. 2 into a power tunnel we would produce an additional 80,000 kilowatts of power. This money would be applied toward initiating detailed studies in connection with installation of that power.

Mr. DAVIS. How soon does this present plan anticipate completion of that power project?

Colonel PAULES. April 1956 and October of 1956.

General CHORPENING. Two units will be installed of 40,000 kilowatts each, and the dates to come on the line are as stated by Colonel Paules.

Mr. RABAUT. This is just for study.

General CHORPENING. Yes, sir.

Mr. DAVIS. I think it is quite relevant to know when that power is anticipated, in order to determine whether we ought to study it or not.

NEW CUMBERLAND LOCK AND DAM, OHIO RIVER

Mr. RABAUT. The next item is New Cumberland lock and dam, No. 9, Ohio River.

General CHORPENING. We have had allotments to date of $179,000, Our tentative allocation for fiscal year 1953 is $100,000. This is the similar situation to that which I have explained in connection with Fernbank and Greenup. In this instance we will replace three existing locks and dams.

The whole Ohio River system is now about 40 years old and with the developments in transportation, barges, and so forth, we feel that we must look toward the replacement of the present facilities.

Mr. RABAUT. I suppose at the present time you have to break up the tow and that this proposed structure will give you relief from that situation?

General CHORPENING. Yes, sir. It will greatly accelerate the traffic.

HILDEBRAND LOCK AND DAM, MONONGAHELA RIVER, PA. AND W. VA.

Mr. RABAUT. The next item, No. 10, is Hildebrand lock and dam, Monongahela River, Pa. and W. Va.

General CHORPENING. We have had $35,000 of allotments to date and our tentative allocation for fiscal year 1953 is $35,000.

This is also a replacement of two existing locks and dams on the Monongahela River. I do not believe I need further testify here on the importance of the Monongahela. The dams to be replaced are both old and obsolete.

Mr. RABAUT. Has there been any change in the plan since last year?

General CHORPENING. No, sir.

CARTHAGE DAM, CUMBERLAND RIVER, TENN.

Mr. RABAUT. Item No. 11 is Carthage Dam, Cumberland River, Tenn.

General CHORPENING. This I believe is entirely a power installation. We have had allotments to date of $200,000 and our tentative allocation for fiscal year 1953 is $90,000. The same remarks that I made in connection with the Celina Dam apply here.

Mr. DAVIS. I am having continuing difficulty, General, in reconciling the statements that crop up from time to time that these are straight power projects. When General Pick was here last year he said that the Army engineers never build straight power projects. How can I reconcile these statements?

General CHORPENING. I do not recall the statement made by General Pick.

Mr. DAVIS. I believe Mr. Ford read that statement into the record last year.

General CHORPENING. Of course, in making studies of the Cumberland River in the past, Congress has charged the Corps of Engineers with making complete studies and recommendations for the development of the watershed. In our report to the Congress these dams were recommended for the production of power and collateral benefits, such as public use, conservation, stream flow, regulation. That report of the Corps of Engineers was looked on with favor and was authorized.

I would like to say something off the record.

(Statement off the record.)

Mr. DAVIS. The statement that General Pick made as it appears in the record and as Mr. Ford subsequently read it into the record in other places in last year's hearings is as follows:

> If it can be determined that some power can be developed and it is worth while thing for the Government to install power-generating units, power is included. Power is usually incidental. We do not go out and just build simply a power project.

General CHORPENING. I think I can explain that this way, Mr. Davis. The Congress to my knowledge has never given us a directive to make a preliminary examination or a survey for the purpose only of developing power projects on any stream. Those directives are to consider the stream for all benefits and that is the way our reports, beginning with our 308 reports back in the thirties and continuing, have been written. So we include projects in a comprehensive scheme. If power can be economically developed, it is included in the over-all plan that includes navigation, flood control, and other benefits. This particular project is primarily a power project.

Mr. DAVIS. It would not be built if it were not for the power?

General CHORPENING. That is correct.

MC GEE BEND DAM, ANGELINA RIVER, TEX.

Mr. RABAUT. The next item, No. 12, is McGee Bend Dam, Angelina River, Tex. Give us a general statement on this, General?

General CHORPENING. McGee Bend Dam: We have had allotments to date of $671,200 and tentatively allocated for fiscal 1953, $25,000.

This is a multiple-purpose project which will produce hydroelectric power. It has some flood-control benefits, very slight navigation benefits, but very considerable water supply and antipollution benefits in that vicinity.

As I recall it, this project in its authorization required local interests to contribute $5,000,000, and as to that portion which has already been constructed I think they have contributed $2,000,000 to date. It is in a section of the country where there is a considerable amount of manufacturing and industrial activity having to do with national defense.

BUDGET ESTIMATES AND ALLOCATIONS FOR 1950

Mr. FORD. How much did the Corps of Engineers ask of the Bureau of the Budget last year for preparation of plans?

General CHORPENING. We will supply that for the record.

Mr. FORD. Also include the tentative allocations that you proposed at the time you submitted your request to the Bureau of the Budget; and also in the same chart, or in a second chart, show what you justified to the Congress in the budget request to the Congress with the tentative allocations.

Then show the amount that Congress approved for the fiscal year 1952 for preparation of the plans, the sum of which I understand was $500,000.

Then show how you have allocated the $500,000 and exactly where those expenditures went.

General CHORPENING. We shall insert such a chart.

(The information requested is as follows:)

River and Harbor Planning Program for fiscal year 1952

Project	OCE request to Bureau of Budget	OCE allocation of amount approved by Bureau of Budget	Allowed by Congress [1]	OCE allocations certified by President
Alabama:				
Alabama-Coosa Rivers:				
Howell Mill Shoals Dam	[2] $150,000	$300,000		$75,600
Jones Bluff Lock and Dam	100,000			
Apalachicola, Chattahoochee and Flint Rivers:				
Upper Columbia Lock and Dam	125,000			
Tennessee-Tombigbee waterway, Alabama and Mississippi	180,000	100,000		
Arkansas:				
Arkansas River and tributaries, Arkansas and Oklahoma	400,000	100,000		100,000
Overton-Red River waterway, Arkansas and Louisiana	50,000			
Hawaii: Kawaihae Harbor	50,000			
Indiana: Fernbank Lock and Dam (Markland site), Kentucky, Indiana and Ohio	50,000	50,000		79,500
Kentucky:				
Cumberland River Basin:				
Celina Dam				50,000
Lower Cumberland Lock and Dam		150,000		
Greenup Locks and Dam, Ohio River, Kentucky and Ohio	100,000	50,000		76,500
Louisiana:				
Gulf Intracoastal Waterway:				
Plaquemine-Morgan City Alternate Route	60,000			
Baton Rouge to Gulf of Mexico	5,000			
Ohio: New Cumberland Locks and Dams, Ohio and West Virginia	100,000	75,000		
Oregon: The Dalles Lock and Dam	250,000	[3]		
Pennsylvania: Monongahela River:				
Dam No. 8	[2]			29,400
Hildebrand Lock and Dam, W. Va	35,000			35,000
Tennessee: Cumberland River Basin:				
Carthage lock and dam	100,000	100,000		200,000
Old Hickory lock and dam	200,000	[3]		
Texas: McGee Bend dam		75,000		
Total	2,000,000	1,000,000		646,000

[1] The Congress appropriated $500,000 for fiscal year 1952 and stated that this amount, plus unobligated balances of prior year appropriation, could be used only for the planning of projects certified by the President as being in the interest of the National Defense.

[2] Recommended for construction.

[3] Approved for construction.

PROJECTS CERTIFIED FOR NATIONAL DEFENSE

Mr. FORD. One more question. Are any of these projects in your request for this coming fiscal year certified by any agency of the Government or by the President as being necessary for national defense? If any have been so certified, please enumerate them.

General CHORPENING. Yes, sir.

(The information requested appears as follows:)

The following planning projects in the 1953 budget were certified by the President for planning either for fiscal year 1951 or fiscal year 1952:

Howell Mill Shoals Dam, Ala.
Upper Columbia lock and dam, Alabama and Georgia
Arkansas River and tributaries, Arkansas and Oklahoma (bank stabilization)
Fernbank lock and dam (Markland site), Indiana, Kentucky, and Ohio
Celina Dam, Ky.
Greenup lock and dam, Kentucky and Ohio
New Cumberland lock and dam, Ohio and West Virginia
Hildebrand lock and dam, West Virginia
Carthage Dam, Tenn.

(NOTE.—New lock and dam 8 (Warrior lock and dam), Alabama and Fort Peck Dam, Mont. (second power plant) have not previously been presented to Congress for a planning appropriation nor to the President for certification.)

OPERATION AND MAINTENANCE OF PROJECTS

Mr. RABAUT. General, will you give us a general statement on operation and maintenance of projects?

General CHORPENING. We are requesting this year for the operation and maintenance of projects, channels and harbors, including dredging, jetties and breakwaters, $43,488,000; operation and care of locks, dams, and canals, $20,118,000; operation and care of multiple-purpose projects, $3,100,000.

I would like to present a general statement on the operation and maintenance.

These funds are considered to be the minimum amount required to perform the functions, assigned by law, to the Corps of Engineers and maintain and operate the most important ports and navigable waterways serving defense needs and essential domestic commerce to the depths and widths necessary for vessels which are now using and will use the facilities in fiscal year 1953. Maintenance of many projects, important to local needs, will be deferred and for many of the major projects and waterways, required maintenance will be minimized by placing reliance on the range of tide to permit cargoes to be delivered, although this may result in costly delays to some shipments. Repairs and reconstruction work on many structures of the canalized waterways, some of which are reaching the end of their useful life, will be held in abeyance. It is proposed to abandon or drastically curtail the operation and care of some locks and dams on waterways where the commerce is insufficient to warrant continued operation during the present emergency.

Inland waterway traffic has increased from 9.423 billion ton-miles in 1934 to 51.657 billion ton-miles in 1950, or five times.

On the Great Lakes traffic has increased in the same period from 48.267 billion ton-miles to 111.687 billion ton-miles.

The total net water-borne commerce of the United States increased from 740,721,000 tons in 1949 to approximately 820,582,000 tons in 1950, or a 10-percent increase.

Funds to continue minimum economical operation and care of the Bonneville, Fort Peck, and St. Marys projects are included in the approved budget.

In the justification book on pages 138 to 147 is shown the detailed allocations for the various harbors, locks, dams, canals that go to make up these totals that I have stated.

OBLIGATIONS BY PROJECTS

Mr. RABAUT. Please file for the record your proposed and actual obligations of funds by projects for 1950, 1951, and 1952.

General CHORPENING. Yes; under those various designations?

Mr. RABAUT. Yes.

General CHORPENING. We will be glad to do that.

(The information requested was supplied the committee.)

PROJECTS MAINTAINED SINCE 1946

Mr. RABAUT. File for the record the number of projects you have maintained annually since 1946.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

Number of projects maintained

	1946	1947	1948	1949	1950	1951	Proposed 1952	Proposed 1953
Channels and harbors	266	316	363	352	296	252	158	195
Locks, dams, and canals	36	38	38	38	40	42	44	39
Multiple-purpose projects	2	2	2	2	2	3	3	3

PROJECT ABANDONMENT AND SAVINGS SINCE 1946

Mr. RABAUT. File for the record a table showing the projects you have abandoned annually since 1946 and the savings on each.

General CHORPENING. Yes; I will do that.

(The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings, part 1.)

INTRACOASTAL WATERWAY MAINTENANCE COSTS

Mr. RABAUT. File for the record the complete intracoastal waterway maintenance cost annually since 1946, including the estimated obligations in 1953.

(The data requested are as follows:)

Intracoastal waterway maintenance costs

Fiscal year	Atlantic Intracoastal Waterway	Gulf Intracoastal Waterway	Fiscal year	Atlantic Intracoastal Waterway	Gulf Intracoastal Waterway
1946	917,707	2,255,004	1950	1,044,478	4,390,008
1947	1,018,266	1,615,719	1951	655,061	3,242,254
1948	1,323,667	2,688,614	1952	[1] 924,245	[1] 2,711,214
1949	1,736,477	2,535,010	1953	[1] 1,185,100	[1] 3,302,000

[1] Estimated.

OBLIGATIONS ON CERTAIN PROJECTS FOR 5-YEAR PERIOD

Mr. RABAUT. Please file for the record the obligations for the past 5 years for typical maintenance projects showing commerce, proposed and actual obligations.

General CHORPENING. So that I may understand, you would like a statement on the amount of maintenance funds we have used each year on those projects?

Mr. RABAUT. That is right.

(The information requested is as follows:)

Typical maintenance projects showing commerce, proposed and actual obligations

	Baltimore Harbor, Md.	Mobile Harbor, Ala.	San Francisco Harbor, Calif.	Duluth-Superior Harbor, Minn. and Wis.	Sabine-Naches waterway	Ashtabula Harbor, Ohio	Cleveland Harbor, Ohio	Boston Harbor, Mass.
1952—Commerce.....tons								
Proposed allotment	$423,000	$355,050	$283,900	$195,000	$471,000	$92,000	$660,000	$145,300 $327,300
1951—Commerce.....tons								
Proposed allotment	$531,000	$512,500	$144,000	$168,000	$680,000	$122,000	$676,000	$75,000
Obligated	$75,594	$229,413	$57,966	$162,035	$533,426	$82,201	$636,559	$69,505
1950—Commerce.....tons	35,640,406	7,233,103	4,771,699	63,149,107	48,385,028	13,793,518	18,144,789	19,446,154
Proposed allotment	$446,000	$344,250	$134,000	$165,000	$600,000	$62,000	$632,000	$75,000
Obligated	$457,684	$522,091	$162,413	$148,502	$614,680	$52,000	$533,737	$2,389
1949—Commerce.....tons	34,577,093	6,741,391	4,953,991	56,673,901	51,062,098	11,486,690	16,353,521	15,892,021
Proposed allotment	$345,100	$500,000	34,000	$175,000	$550,000	$220,000	$598,000	$65,000
Obligated	$323,905	$404,179	$28,327	$127,008	$663,785	$31,038	$650,621	$8,487
1948—Commerce.....tons	35,038,546	7,072,701	5,102,096	69,242,404	55,594,660	16,576,777	19,200,500	18,317,356
Proposed allotment	$50,000	$378,000	$235,000	$162,000	$750,000	$277,400	$625,500	$100,000
Obligated	$107,569	$527,530	$30,238	$106,194	$189,250	$35,322	$492,632	
1947—Commerce.....tons	41,468,955	6,652,571	5,150,285	64,457,513	47,838,462	15,198,374	19,474,463	18,502,902
Proposed allotment	$12,000	$320,000	$29,000	$140,000	$640,000	$78,000	$300,000	
Obligated	$142,711	$103,846	$38,363	$99,483	$143,284	$57,034	$426,989	

Typical maintenance projects showing commerce, proposed and actual obligations—Continued

	Milwaukee Harbor, Wis.	Yaquina Bay and Harbor, Oregon	Columbia and Lower Willamette Rivers below Vancouver, Wash.	Pascagoula Harbor, Miss.	Pensacola Harbor, Fla.	Charleston Harbor, & S. C. &	Norfolk Harbor, Va.
1952—Commerce.....tons	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Proposed allotment	$206,000		$1,282,000	$70,000	$70,000	$600,000	$327,500
Obligated	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1951—Commerce.....tons	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Proposed allotment	$65,000	$60,000	$1,367,400			$615,000	$180,000
Obligated	$62,582	$29,639	$1,284,047	$96,226	$29,942	$634,785	$273,102
1950—Commerce.....tons	8,923,964	364,716	18,577,958	181,762	447,506	3,427,586	18,162,494
Proposed allotment	$173,000	$60,000	$1,400,000		$60,000	$530,200	$177,500
Obligated	$168,843	$83,650	$1,543,560	$25,090	$43,663	$807,743	$138,142
1949—Commerce.....tons	4,632,563	216,534	12,554,690	214,447	488,762	2,627,088	21,191,132
Proposed allotment	$100,000	$46,000	$1,100,000	$75,000	$50,000	$500,000	$521,000
Obligated	$80,132	$33,141	$1,510,300	$36,000	$2,595	$297,714	$255,220
1948—Commerce.....tons	5,721,769	114,314	10,063,989	200,681	802,760	4,027,647	26,120,177
Proposed allotment	$84,500	$7,000	$1,100,000	$112,500	$92,500	$615,000	$540,800
Obligated	$180,089	$2,154	$1,072,553	$166,217	$55,587	$661,460	$597,853
1947—Commerce.....tons	5,632,118	28,838	11,483,055	157,607	2,595,587	5,185,669	27,073,681
Proposed allotment	$22,000	$26,000	$600,000	$65,000	$60,000	$400,000	$650,000
Obligated	$30,632	$1,540	$851,170	$22,397	$120,837	$589,758	$134,518

[1] Not available.

USE OF MAINTENANCE FUNDS

Mr. RABAUT. Last year there was strong complaint registered by many Members of Congress that the Corps of Engineers did not obligate the maintenance funds in accordance with the break-down justified to this committee. I would appreciate your comment on this matter.

General CHORPENING. What we do, Mr. Rabaut, in preparing the data that is included in the justification sheets is at the time of the preparation of our budget, which is approximately 1 year ahead of the time the funds are going to be used, we make our best estimate based on the past experience we have had with these harbors, present condition concerning what needs to be expended to maintain those harbors and waterways for this period of time.

Obviously in making an estimate that long period ahead of the time. it cannot be accurate as of the time the work is to be done. Then in many instances we find that we have either undershot, or in some instances overshot in estimating the conditions that will exist the following year because ocean conditions, storms, floods, and other things that occur may very considerably change the conditions existing there or at any other place.

So we present our best estimate, but the actual obligations might vary considerably from the estimates.

There is another phase of this that I think I should mention at this time. We are not presently maintaining all of the authorized and constructed navigation projects of the country. With the limited maintenance funds that are now available to us, we must utilize the funds available at those harbors which are of the greatest importance, and on some where the local interests, may I say, insist almost that we must maintain, we are unable to do so.

Mr. RABAUT. Can you ascertain in your own mind what was the background for the complaints as expressed on the floor by certain Members of the Congress as to maintenance funds for certain projects?

General CHORPENING. I think, Mr. Rabaut, I can give the committee some information on that.

First, we have approximately 1,600 projects that have been constructed and utilized by navigation, and in this last year we have been only able to do maintenance work on 280 projects, and those 280 are those that we felt were of the greatest importance.

I have had many, many requests from Members of Congress to place some funds on maintenance of a harbor or inlet that was authorized and built in their particular territory, and I have had to say to them that the funds we have available are not sufficient and we just cannot allocate any, because in our judgment—and we must be the judges of it—we just cannot apportion the funds and have proper maintenance in the larger harbors.

In the preparation of our budget we get in from the district and division engineers their estimates of what they should have to do to provide a proper job of maintenance, and I think it would interest the committee to know that that sum totals up—the total of all districts—to $62,156,000 for this coming fiscal year.

Mr. RABAUT. Will the maintenance funds be spent this year in keeping with this breakdown?

General CHORPENING. Generally, as I have stated, this was our best estimate, made nearly a year before the actual existing river and harbor conditions were known.

Mr. RABAUT. Is there any reason for a change, in your judgment? Have any changes taken place that would call for a substantial change on any of the tentative allocations?

General CHORPENING. We have not recently asked the field for any report. I am certain, Mr. Rabaut, as we go along it would vary somewhat from this, because conditions are constantly changing.

Mr. RABAUT. Percentagewise can you tell us how much the change would be?

General CHORPENING. According to conditions that exist—anything I said on that would be a bald-faced guess.

Mr. RABAUT. How has it changed in the past?

General CHORPENING. We would have to do some research work on that to do so.

Mr. RABAUT. Suppose you take a look at the statistics of the past and elaborate on that for the record.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

In the President's budget for fiscal year 1950, it was estimated that 357 projects would be maintained and operated in that year. Of these budgeted projects, 296 were actually worked on during that fiscal year, or 83 percent. In addition, 42 projects, or 12 percent not proposed to be maintained in the budget, were worked on due to conditions not previously forseen.

Similarly, for fiscal year 1951, it was estimated that 377 projects would be maintained and operated in that year. Work was performed on 265, or 70 percent of those budgeted for. In addition, 32 projects, or 8 percent, not proposed to be maintained were worked on in fiscal year 1951. The major factor in reduction of the number of projects maintained was due to the reduction in appropriations for channels and harbors from the $53,000,000 proposed in the budget to the $41,000,000 appropriated for this activity.

In fiscal year 1952, a total of 205 projects were proposed to be maintained. The actual maintenance experience will not be determinable until the close of the fiscal year.

INCREASED COSTS

Mr. DAVIS. What is the explanation for the fact that the amount for lock operation and canal operation increases from last year in spite of the discontinuance of operation of some of the obsolete waterways?

General CHORPENING. The great proportion of those funds goes into the pay of personnel, and as you will recall, the civilian pay has increased in the past year.

NEW PROJECTS

Mr. DAVIS. Are there any channel or harbor-maintenance projects in this request that you have submitted to the subcommittee that are new?

General CHORPENING. There are no new projects—there were no projects placed into operation this past year.

Mr. DAVIS. Are there any on the list which have peculiar problems that would account for a rather large increase this year over last year?

General CHORPENING. I do not think that I could cite any specific cases. I can say this, that as we have gone along with a very much reduced amount of funds over what the district engineers have indicated was needed, deferred maintenance is eventually catching up

with us in some places, and we have got to go in and do additional work on those projects.

We are requesting money for the construction of the Keokuk Dam where we must expend $250,000 of maintenance funds this year; and also there are some others which will come up. We are handling them as they arise, and when conditions get to the point where some action has to be taken.

I would like to say this, Mr. Davis, there may be some projects on the list this year that are not in last year's estimate, which does not mean they are new projects. There are some where we are going to have to do some maintenance work on this year since we did not work on them last year—harbors or canals.

Mr. DAVIS. What I am essentially interested in is to get an explanation of the $2,488,000 increase this year over last year, other than what there might have been by reason of the pay increase.

General CHORPENING. Yes, sir. The amount as we have it this year as against last year is somewhat larger.

Mr. DAVIS. Yes, and that is the reason I ask if there are any particular problems or any new projects that were brought in under maintenance. I am attempting to get an explanation, if there might be one for this increase, other than pay increase for employees.

General CHORPENING. Actually this is very definitely an austerity program on maintenance of the harbors. It is very definitely that, and you note that aside from the portion of the amount of increased pay of our people the increase does not amount to a great percentage, but is simply the amount that we feel is essential to keep the rivers and channels and harbors of the country in the shape in which they must be kept under the austere program that we are now following.

CHANNELS AND HARBORS—YEARS COMPARED

Mr. FORD. General, last year the figure for channels and harbors, including dredging, jetties, and breakwaters, was $41 million. Was that an even figure?

General CHORPENING. The appropriation?

Mr. FORD. Here is what I would like to have you do. Supply a chart if possible showing what you requested and what the Congress gave you and your allocation out of the funds you got.

Colonel MILNE. Last year?

Mr. FORD. For this current year.

General CHORPENING. In the fiscal year 1952.

Mr. FORD. Yes.

General CHORPENING. I think we can give that.

Colonel MILNE. We were appropriated $40,187,500 by the Congress for the fiscal year 1952. We anticipate that our actual obligations by the close of 1952 will be $46,416,309.

Mr. FORD. How can you spend more than was appropriated?

Colonel MILNE. We can do that because we have in the past had some carry-overs that we could continue to use, but at the present time the carry-overs are just about gone; we have been living on past appropriations. We can no longer do that.

Mr. FORD. These were funds which were left to the credit of the Corps of Engineers from previous years?

Colonel MILNE. Partially that, and partially it is hired labor work that we did not do and carried over from the preceding year. In no sense is there a surplus of money.

Mr. FORD. Eventually you are going to catch up with that, are you not?

Colonel MILNE. Yes, sir; it has caught up with us now.

Mr. FORD. What is the extent of that potential carry-over as of now?

Colonel MILNE. We carried over approximately $7 million year before last, and $2 million this year.

Mr. FORD. Two million as of June 30, 1951?

General CHORPENING. 1951.

Mr. FORD. In 1952, the estimate, according to the committee print, was $45,903,809. Somewhere I saw that last year the figure was $41 million. Where did I get that figure?

Mr. BOUSQUET. That probably was our approved budget; that was cut by the Congress.

Mr. FORD. Could you insert in the record a chart of what the obligations have been under subtitles (a), (b), (c), and (d) from 1948 on, including the estimate of requested amount for 1953?

Colonel MILNE. The amount we requested of the budget?

Mr. FORD. The amount that is in the budget and insert that in the record.

General CHORPENING. We have that here, I believe.

Mr. FORD. The actual obligations for each of the years and the requested amount in the budget for 1953.

(The information requested follows:)

Annual obligations for operation and maintenance of river and harbor projects, fiscal year 1948 through fiscal year 1953

	Fiscal year				Estimate, 1952	Estimate 1953
	1948	1949	1950	1951		
(a) Channels and harbors	$46,893,464	$50,409,684	$47,707,373	$40,419,917	$46,416,309	$46,350,000
(b) Operation and care of locks, dams, and canals	16,579,942	20,713,521	20,209,054	18,361,241	20,160,797	21,300,000
(c) Operation and care of multiple-purpose projects	1,515,458	1,654,049	1,526,214	[1] 3,203,419	[1] 3,249,911	[1] 4,000,000
(d) Operation and care of fish facilities (transfer to Fish and Wildlife Service)	(2)	(2)	(2)	96,187	302,500	669,135

[1] Includes St. Marys River, Mich.
[2] Data not segregated by this budget activity prior to presentation of the fiscal year 1953 budget.

INDIVIDUAL ITEMS AS GUIDES

Mr. FORD. Referring to the policy in the individual items that are set forth in the charts from page 138 to page 147 of the justifications: This is more or less a guide for your division engineers?

General CHORPENING. This is a guide which is essentially based on the information furnished to us by our district and division engineers, but based upon our experience and our over-all knowledge of the situation throughout the country, it is our best estimate, made at the time we prepared it, of what would be required in the way of maintenance this coming year.

Mr. FORD. When an appropriation is made by the Congress for the next fiscal year, then you would take the total amount for maintenance on the basis of this chart and allocate so much to each division?

General CHORPENING. We do not allocate all of the funds immediately. Of course we allocate a portion of it to various purposes, based on this, and the situation as it exists when the appropriation was made. Then as the year goes along and situations come up we have to make further allocations to the various divisions. Of course, on our projects and particularly the most important ones, we require periodic soundings and they are sent to us here so that we can make studies of the situation to determine in our judgment the amount of funds required for any particular port or harbor.

Mr. FORD. Suppose a project is listed in the justification for a certain amount, theoretically the Corps of Engineers could spend only that amount?

General CHORPENING. We would try to adhere to that breakdown.

Mr. FORD. For that particular project?

General CHORPENING. That is correct; and if the conditions of the harbor and shipping did not require it, we certainly would not spend any more than required.

Mr. FORD. Then would you be free to spend the money elsewhere on the basis of this request?

General CHORPENING. Yes, and we might spend more in some locations.

Mr. Ford, I do not know how far back it goes, but we have had that flexibility, and without that flexibility it would be extremely difficult to operate this program. As a matter of fact, it boils down to this, that where there are now a few people unhappy, I think half of the people would be unhappy and the Congress would be appropriating funds that would in effect be frozen. Now we can use the funds at other places where they are needed.

We cannot foresee where a storm is going to happen, where a flood will happen that will require the application of maintenance funds greatly in excess of these estimates; neither can we foresee a very favorable situation happening that may not require any funds.

Mr. FORD. That flexibility is on a Nation-wide basis?

General CHORPENING. Yes, sir.

Mr. FORD. Not district-wide?

General CHORPENING. It is Nation-wide.

OPERATION AND MAINTENANCE, SPECIAL

Mr. RABAUT. Will you give us a general statement on operation and maintenance, special, General?

General CHORPENING. Under this category there are three: Removing sunken vessels and other obstructions to navigation, $750,000 tentatively allocated.

Protecting, clearing, and straightening channels in navigable waters, not specifically authorized by the Congress, $300,000.

Survey of northern and northwestern lakes, $300,000.

I believe that last year the committee requested certain tables which were placed in the record. We can bring them up to date if you wish.

Mr. RABAUT. Very well.

(The table requested follows:)

Lump-sum appropriations and amounts allocated for wreck removal during fiscal years 1941–51

Fiscal year	Appropriations	Allocation [1]	Fiscal year	Appropriations	Allocation [1]
1941	$90,000	$169,700	1947	$800,000	$574,800
1942	90,000	275,100	1948	300,000	670,500
1943	100,000	326,400	1949	300,000	916,000
1944	100,000	723,400	1950	300,000	396,400
1945	200,000	172,600	1951	500,000	989,070
1946	200,000	195,900			

[1] Where the allocation exceeds the appropriation, the difference is made up from maintenance; where the allocation is less than the appropriation, the difference is used for general maintenance.

Obligations for contingencies, fiscal years 1948–53

	Amount		Amount
1948	$2,110,600	1951	$1,826,500
1949	2,369,400	1952 (estimated)	1,922,611
1950	2,111,700	1953 (estimated)	1,305,000

Allotments made under authority of section 3 of River and Harbor Act approved Mar. 3, 1945

	Allotments		Allotments
1946	$124,600	1949	$113,500
1947	185,500	1950	228,400
1948	244,100	1951	193,800

Cost of work of surveys of northern and northwestern lakes, fiscal years 1941–51

	Amount		Amount
1941	$213,100	1947	$330,800
1942	214,800	1948	335,000
1943	211,400	1949	353,300
1944	208,000	1950	409,300
1945	211,900	1951	422,817
1946	242,700		

Revenues from sale of charts of the northern and northwestern lakes

	Amount
1949	$23,816
1950	24,043
1951	25,484

NOTE.—Records for previous years not available in Office, Chief of Engineers.

Mr. DAVIS. The tabulations show the amount of actual expenditures under the items of protecting, clearing, and straightening channels in navigable waters not specifically authorized by the Congress through the fiscal year 1950.

General CHORPENING. Yes; that is what we are going to provide for the record.

SURVEY OF NORTHERN AND NORTHWESTERN LAKES

Mr. DAVIS. Is the item "Survey of northern and northwestern lakes" a continuing proposition, or is there some foreseeable end to it?

General CHORPENING. It is essential with such large bodies of water that some agency, and since we are the agency charged with the build-

ing of the locks and maintenance of the ports, some agency has to keep a constant check on the Lakes in the way of having charts that will be kept in proper shape, and those charts are printed and made available to shipping interests.

Continuous data is collected so that we have information on which we may base our further studies of desirable improvements that may be requested or desired by local interests and commerce.

I would like to say that with the funds we have been receiving in recent years we are seriously behind in keeping what we consider to be proper charts available on the Great Lakes.

RAISING OF THE "BENEVOLENCE"

Mr. DAVIS. Last year, when you were before the committee you were wondering about the efforts to raise the *Benevolence*. What success has been had in that regard?

General CHORPENING. It is a long story. The *Benevolence* was a naval hospital ship sunk in the entrance, just outside the Golden Gate, in the fall of 1950. Efforts were made by the Navy to salvage or raise it. I have forgotten the exact date, but sometime, I think, in the early part of 1951 we were asked by the Secretary of the Navy to take it over. It was an abandoned ship.

We immediately started making an extensive study of the situation of the ship and how it lay and how we could go about removing it. Cost estimates of removing it varied all the way from a half-million dollars up to as high as $3 million. We gave consideration to either, (1) raising the ship and taking it to deep water and disposing of it; and (2) demolishing it in place.

We secured the opinions of the best civilian consultants that we knew of about the advisability of taking either action—from wrecking people or salvage people who had done work all over the world. We concluded that the best way to handle it was to demolish it in place, and we entered into a contract to do that in about October of 1951—it may have been September—for a little less than $300,000.

Frankly, I was amazed that we could get a reputable bid for that amount, but I personally investigated the lowest bidder and came to the conclusion that he knew what he was talking about. The work is under way. As near as we can gather from the results so far, we are going to be successful in demolishing the ship in place. However, the contract was not started until this fall, and weather conditions have been extremely bad and not too much work has been completed up to this time. I hope that we will be successful in getting the job done for the very favorable bid that we received.

Mr. KERR. Will you be able to salvage any part of the ship?

General CHORPENING. No, sir.

Mr. KERR. That would be impossible?

General CHORPENING. We went into that very thoroughly, Judge, to see if it would not be possible to economically salvage some parts of the ship or the material within the ship, and we concluded that any expenditure that we might make would exceed the value of what we could get out of it.

Mr. DAVIS. Do you have any other particular problems that will be met in this $750,000 that has been requested?

General CHORPENING. We do not know of any at this time.

REMOVAL OF SUNKEN VESSELS

Mr. FORD. General, on page 286 of the hearings last year you gave a chart covering vessels removed from 1941 through 1950. If you will look at the total appropriation for the fiscal year, amounting to $2,480,000, and the allocations, totaling $4,420,800, how do you account for that apparent discrepancy?

General CHORPENING. The note at the bottom of the table indicates that. The amount appropriated was not sufficient for this specific purpose. They had to take it out of other maintenance funds.

We look upon a sunken vessel in a waterway as an emergency and the obstruction must be removed promptly, and we have the authority to take funds from maintenance to do the job.

You will note that in those years we had varying amounts, and it was $800,000 in one year, and $300,000 in another, and this year we are asking for $750,000.

Mr. FORD. Is that increase principally based on the cost of handling various jobs?

General CHORPENING. Based on the average, I think, over past years. I would like to think that maybe one of these years we will get a little bit ahead and be able to return to maintenance some of the funds we have had to take out of maintenance to do this work.

Mr. FORD. In other words, where you do not allocate as much as has been appropriated, this goes back to maintenance?

General CHORPENING. Yes, sir.

Mr. FORD. Such as in 1947?

General CHORPENING. Yes, sir.

EXAMINATIONS AND SURVEYS

Mr. RABAUT. Will you give us a general statement on examinations and surveys?

General CHORPENING. Examinations and surveys is broken down into rivers and harbor studies, $600,000; that is the first item, and that is requested for the purpose of prosecuting preliminary examinations and surveys that we now have in our hands on directives of the Congress and additional ones which we may receive during the coming year.

At the present time we have 451 outstanding preliminary examinations and surveys on which we have been able to make very little progress during the past year. Members of the committee will recall that there was no survey money appropriated last year and the only funds available to us were those that we had from previous years.

Mr. RABAUT. Will you list for the record the specific projects contemplated by this estimate?

General CHORPENING. I can do that.

(The information requested follows:)

Status of funds for proposed 1953 river and harbor survey program

	Total estimated cost	Funds available June 30, 1951	Percent complete June 30, 1951	Amount available November 1951	Fiscal year 1953
Salem Harbor, Mass	$8,500	$5,900	70	0	$2,600
Boston Harbor Reserved Channel, Mass	27,500	2,500	9	$4,300	20,700
Cape Cod Canal, Mass	39,000	12,000	31	10,000	17,000
Bridgeport Harbor, Conn	23,000	14,500	63	0	8,500
Moriches and Chinnecock Inlets, N. Y	27,000	19,200	71	0	7,800
Gowanus Canal, Brooklyn, N. Y	2,500	0	0	0	2,500
Delaware River, anchorages	5,000	0	0	0	5,000
Baltimore Harbor and Channels, Md	32,700	9,700	30	0	23,000
Chincoteague Bay, harbor of refuge at Chincoteague, Accomack County, Va	8,000	0	0	0	8,000
James River, Va	164,700	8,600	5	0	[1] 10,000
Little Creek, Princess Anne County, Va	17,000	6,000	35	500	10,500
Inland waterway from Norfolk, Va., to Beaufort Inlet, N. C., re side channel 12 feet deep through Pasquotank River and Albemarle Sound to Elizabeth City, N. C., and Pasquotank River, N. C., re modification of existing project for waterway from Norfolk, Va., to sounds of North Carolina	22,600	17,200	76	0	5,400
Atlantic Intracoastal Waterway between Norfolk, Va., and St. Johns River, Fla., Albemarle Sound and Pungo River, N. C	25,000	18,200	73	0	6,800
Shem Creek Channel, Charleston Harbor, S. C	7,000	200	3	0	6,800
Canaveral Harbor, Fla	10,000	0	0	0	10,000
Sebastian Inlet, Fla	20,200	16,400	81	700	3,100
Boot Key Harbor, Marathon, Fla	15,500	1,000	6	0	[1] 5,000
Key West Harbor, Fla	7,800	0	0	0	[1] 5,000
Dona and Roberts Bays, Naples Bay, Fort Myers Beach, and Lemon Bay, Fla	33,500	6,500	19	0	[1] 5,000
Intracoastal Waterway, Anclote River to St. Marks River, Fla	121,700	82,000	67	4,700	35,000
Humacao Harbor, P. R	32,700	28,400	87	0	4,300
San Juan Harbor, P. R	8,500	4,900	58	0	3,600
Carrabelle Harbor, Fla	5,000	3,000	60	0	2,000
Apalachicola River system ("308" report)	284,200	130,400	46	0	[1] 20,000
Flint River, Ga	68,000	8,000	12	0	[1] 10,000
Tombigbee River system, Alabama and Mississippi	113,000	38,700	34	15,000	[1] 20,000
Mississippi River at Baton Rouge, La	18,000	0	0	0	18,000
Galveston Harbor, Houston Ship Channel, Texas City Channel, and Galveston Channel, Tex	26,000	5,500	21	0	20,500
Lake Liberty, Trinity River, Tex	193,000	25,000	13	0	[1] 15,000
Mississippi River headwaters reservoirs, Minnesota	95,000	25,700	27	0	[1] 19,300
Ohio River, 12-foot channel	541,900	522,000	96	4,900	15,000
Green and Barren Rivers, Ky	75,300	45,300	60	10,000	20,000
Milwaukee Harbor, Wis	7,000	200	3	0	6,800
Duluth-Superior Harbor, Minn. and Wis	12,800	9,800	77	0	3,000
Burns Waterway, Ind	37,500	7,500	20	0	[1] 15,000
Saginaw River, Mich	19,500	14,500	74	1,500	3,500
Rouge River, Mich	12,000	2,000	17	400	9,600
Toledo Harbor, Ohio	12,000	3,000	25	0	9,000
Ogdensburg Harbor, N. Y	5,000	500	10	0	4,500
Camp Pendleton Harbor, Calif	60,000	3,500	6	10,000	[1] 15,000
San Diego Bay Harbor, Calif	28,000	3,000	11	0	[1] 10,000
Sacramento-San Joaquin Delta, Calif	20,000	5,000	25	7,500	7,500
San Francisco Bay and adjacent bays and tributaries, California. (P. E. only)	60,000	40,000	67	10,000	10,000
Corquinez St. and Alhambra Creek, Calif	4,200	800	19	0	3,400
South Basin, San Francisco, Calif	2,500	0	0	0	2,500
Umpqua River and tributaries, Oreg	105,000	58,600	56	0	[1] 10,000
Siuslaw River and Bar, Oreg	6,200	5,100	82	100	1,000
Lake Washington Ship Channel	41,300	35,000	85	3,000	3,300
Tacoma Harbor, Wapato Waterway	7,000	100	1	0	6,900
Harbors and rivers of Alaska	1,000,000	127,000	13	60,000	[1] 113,600
Total	3,518,800	1,372,400		142,600	600,000

[1] Additional funds required to complete.

UNOBLIGATED BALANCES

Mr. RABAUT. What are the total unobligated balances as of June 30, 1951; as of December 31, 1951; and the estimated unobligated balance as at June 30, 1952?

General CHORPENING. We can give you that.

(The information requested follows:)

Unobligated balance June 30, 1951	$686,064
Unobligated balance Dec. 31, 1951	280,966
Estimated unobligated balance June 30, 1952	5,000
Total estimated cost as of June 30, 1951	12,567,100
Total funds available as of June 30, 1951	6,170,600
Estimated remaining cost as of June 30, 1951	6,386,500

Mr. RABAUT. List the appropriation or obligations anual for this item for each year since 1946.

(The information requested follows:)

The obligations for river and harbor studies annually in the period fiscal year 1946 through fiscal year 1951 are as follows:

1946	[1]	1949	$1,288,574
1947	[1]	1950	1,009,155
1948	$1,820,752	1951	1,233,932

[1] It is not possible to segregate river and harbor studies in these years since the budget activity included "Contingencies" as well as "Examinations and surveys."

NEW ENGLAND AND NEW YORK SURVEYS

Mr. RABAUT. In the New York and New England surveys list the total allotments to date for this project and the estimate of other governmental agencies for this work.

General CHORPENING. The estimate of all other agencies for this fiscal year?

Mr. RABAUT. Yes.

(NOTE.—The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings, part 1.)

Mr. RABAUT. For the Arkansas White-Red River Basin survey: give us a list for the record of the total allotments to date for this project.

(NOTE.—The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearing, part 1.)

General CHORPENING. Mr. Chairman, you appreciate that the New York-New England survey and the Arkansas White-Red River Basin survey are combination surveys. There are some funds asked for in flood control, and some in rivers and harbors, and I would think you would want them all.

Mr. RABAUT. That is why I included other agencies.

General CHORPENING. Yes, sir.

Mr. RABAUT. There would be projects in other agencies for the same purpose?

General CHORPENING. Yes, sir.

Mr. FORD. Last year at the time you appeared, what did you request for rivers and harbors studies for the current fiscal year?

General CHORPENING. I think $1,200,000, but we will check it for the record.

Mr. FORD. Could you show in the record what you requested and what was approved for fiscal 1952?

General CHORPENING. What the Bureau of the Budget requested and what was approved?

(The data requested is as follows:)

The Corps of Engineers request of the Bureau of the Budget for river and harbor studies was $2,500,000 for fiscal year 1952. The amount included in the President's budget was $1,200,000.

Mr. FORD. By the Congress.

General CHORPENING. Yes. I can say there was none under "(a) Rivers and harbors study."

Mr. FORD. Last year?

General CHORPENING. Yes, sir.

Mr. FORD. Approved and finally appropriated?

General CHORPENING. That is correct.

Mr. FORD. How do you get the figure here in the 1953 estimate; how do you explain the 1953 estimate of $605,436?

General CHORPENING. That would be carry-over from previous years.

Mr. FORD. That is the estimated expenditure?

General CHORPENING. Yes, sir.

Mr. FORD. And was not an appropriation made?

General CHORPENING. There was no appropriation made for river and harbor studies for 1952.

Mr. FORD. How much more carry-over is there available?

General CHORPENING. There will be very little; it will be mighty close to zero.

BEACH-EROSION STUDIES

Mr. FORD. In connection with beach-erosion studies, that was also a carry-over?

General CHORPENING. I would imagine there were some funds.

Mr. SMET. There was $150,000 appropriated for beach-erosion studies for fiscal year 1952.

Mr. FORD. According to the justification, the 1952 expenditure totaled $424,155.

Mr. SMET. The balance would be carry-over.

Mr. FORD. Where are you making most of the beach-erosion studies?

General CHORPENING. Most of that work is being done right here in Washington. Our Beach Erosion Board headquarters is here in Washington and the resident member is here. We have wave tanks and other facilities here along with a staff to carry on those studies with field work being prosecuted in the various parts of the country.

I did not propose to go into an elaborate discussion of the work of the Beach Erosion Board because I noted that Colonel Potter gave a pretty good description of it last year, and there have been no changes on that.

I think he also talked off the record in connection with implications of some of the activities of the Board and those still are in effect.

Mr. FORD. Is there any request in the budget this year comparable to Harrison County project?

General CHORPENING. No, sir.

Mr. FORD. That was the only beach-erosion project last year?

General CHORPENING. That is right. There are none contemplated this year. That is a cooperative study, and we have dropped them for the time being.

Mr. FORD. There is no construction anywhere in connection with the beach-erosion program?

General CHORPENING. No construction of any project. They may be installing some test gadgets, but I do not suppose you mean construction of that nature; you refer to actual projects on the beaches.

Mr. FORD. Has the Beach Erosion Board come up with any suggestion for protection of beach property, of individuals who own property on lakes or on the ocean?

General CHORPENING. Many of the conclusions reached by the Beach Erosion Board are of real value to public and private interests.

As you know the law only authorizes the expenditures of funds by the Federal Government for the protection of public beaches, not for private beaches.

REGULATIONS

Mr. RABAUT. Under the item, "Regulations," will you explain fully what is contemplated under item (*c*).

General CHORPENING. On page 136, we divide that subtitle into three items: First, "Regulation of hydraulic mining on Sacramento and San Joaquin Rivers (California Debris Commission)," $8,000. The description of how the fund is used and the reason for it is exactly the same as we stated last year.

Under (*b*), "Prevention of illegal deposits in New York Harbor, $430,000." That is the responsibility of the Corps of Engineers, and we have to maintain personnel to police the harbor and see that individuals who are polluting the habor are located and brought into court, if necessary.

The largest portion, item (*c*) "Miscellaneous inspections, investigations, issuance of permits, harbor lines, and commercial statistics (contingencies), $1,305,000," is required to carry out our responsibility under the law for the issuance of all permits in connection with structures on or having any infringement upon navigable waters; likewise, we are required to collect the material for and publish commercial statistics on water-borne commerce.

I would like to also say that we receive many, many letters from public officials, Federal, State, and city, and some private individuals asking us for information on our various activities. Some of these funds are allocated toward providing that information.

Mr. RABAUT. That is what is meant by contingencies?

General CHORPENING. Yes, sir.

I would like to make one further statement, if I may. Going back to the rivers and harbors surveys, we will provide, as requested by the committee, a list of those studies to which at this time we feel the funds will be allocated.

I would like to say that somewhat the same remarks apply to that list as apply to our statement on the maintenance of harbors wherein we will apply the funds because some surveys and examinations that now we do not consider to have a very high priority or any defense implication may become important.

We may be directed to pursue those.

Mr. RABAUT. The status of them might be changed?

General CHORPENING. Yes, sir. I wanted to be certain that the committee understood that.

Mr. KERR. We are always glad to have you come before us to give us this information. We appreciate it.

General CHORPENING. Thank you, sir.

JANUARY 22, 1952.

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES

WITNESS

BRIG. GEN. P. A. FERINGA, PRESIDENT, MISSISSIPPI RIVER COMMISSION

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate	$61,400,400	$60,500,000	$60,020,000
Proposed supplemental due to pay increases		20,000	
Prior year balance available	650,105	503,173	
Reimbursements from non-Federal sources	564,743	600,000	600,000
Reimbursements from other accounts	373,828	900,000	600,000
Total available for obligation	62,989,076	62,523,173	61,220,000
Balance available in subsequent year	−503,173		
Obligations incurred	62,485,903	62,523,173	61,220,000

NOTE.—Reimbursements from non-Federal sources are received from private individuals, commercial concerns, nonappropriated funds, and States and municipalities (33 U. S. C. 558, 559, 571, 701, and 701k).

Obligations by activities

Description	1951 actual	1952 estimate	1953 estimate
Direct obligations			
MAJOR CAPITAL OUTLAY			
1. Construction (lower Mississippi River and tributaries):			
(*a*) Main-stem work	$30,116,140	$30,690,000	$30,800,000
(*b*) Off-main-stem work	18,583,413	15,346,350	14,200,000
CURRENT EXPENSES			
1. Maintenance (lower Mississippi River and tributaries):			
(*a*) Main-stem work	10,994,850	13,472,329	13,175,000
(*b*) Off-main-stem work	1,702,483	1,335,494	1,652,000
2. Administration (salaries, Office, Chief of Engineers, allotment roll)	150,446	179,000	193,000
Total direct obligations	61,547,332	61,023,173	60,020,000
Obligations payable out of reimbursements from other accounts			
MAJOR CAPITAL OUTLAY			
1. Construction (lower Mississippi River and tributaries):			
(*a*) Main-stem work:			
1. Treasury Department, United States Coast Guard	188,653	305,500	288,000
2. Navy Department	2,912	3,800	4,100
3. Department of Army (military functions)	36,637	94,200	74,000
4. United States Air Force	1,910	5,800	6,500
5. Other Federal agencies	4,027	4,700	5,000
6. Non-Federal agencies	169,634	250,000	180,000
(*b*) Off-main-stem work (non-Federal agencies)	28,237	45,000	30,000
CURRENT EXPENSES			
1. Maintenance (lower Mississippi River and tributaries):			
(*a*) Main-stem work:			
1. Treasury Department, United States Coast Guard	56,172	82,500	88,000
2. Navy Department	5,408	7,400	8,000
3. Department of Army (military functions)	76,091	140,400	120,000
4. United States Air Force	1,918	5,700	6,400
5. Non-Federal agencies	366,788	554,900	389,900
(*b*) Off-main-stem work (non-Federal agencies)	84	100	100
2. Administration (salaries, Office, Chief of Engineers, allotment roll) (other Federal agencies)	700	----------	----------
Total obligations payable out of reimbursements from other counts	938,571	1,500,000	1,200,000
Obligations incurred	62,485,903	62,523,173	61,220,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Summary of Personal Services			
Total number of permanent positions	3,937	3,897	3,814
Full-time equivalent of all other positions	880	904	884
Average number of all employees	4,631	4,616	4,517
Average salaries and grades:			
General schedule grades:			
Average salary	$3,828	$4,263	$4,254
Average grade	GS–5.7	GS–5.7	GS–5.7
Crafts, protective, and custodial grades:			
Average salary	$2,835	$3,166	$3,17
Average grade	CPC–4.3	CPC–4.4	CPC–4.4
Grades established by act of May 15, 1928 (33 U. S. C. 702h):			
Average salary	$7,500	$7,500	$7,500
Ungraded positions: Average salary	3,026	3,060	3,075
Personal service obligations:			
Pay and allowances to commissioned officers	$98,488	$99,000	$99,000
Permanent positions	13,053,554	13,835,969	13,707,961
Part-time and temporary positions	2,151,922	2,251,000	2,236,000
Regular pay in excess of 52-week base		53,131	52,639
Payment above basic rates	2,040,824	2,082,400	2,081,400
Total personal service obligations	17,344,788	18,321,500	18,177,000
Direct obligations			
01 Personal services:			
Civilian	17,050,171	17,993,500	17,841,000
Pay and allowances to commissioned officers	98,488	99,000	99,000
02 Travel	601,479	590,000	595,000
03 Transporation of things	225,967	221,500	225,000
04 Communication services	118,648	116,300	117,000
05 Rents and utility services	148,891	145,900	148,000
06 Printing and reproduction	4,043	3,900	4,000
07 Other contractual services	1,347,554	1,320,600	1,345,000
Services performed by other agencies	88,645	86,900	88,000
08 Supplies and materials	11,636,378	11,403,600	11,630,000
09 Equipment	1,638,511	1,605,700	1,635,000
10 Lands and structures	29,040,390	27,862,273	26,724,000
13 Refunds, awards and indemnities	3,550	3,500	3,500
15 Taxes and assessments	10,205	20,500	20,500
Subtotal	62,012,920	61,473,173	60,475,000
Deduct charges for quarters and subsistence	465,588	450,000	455,000
Total direct obligations	61,547,332	61,023,173	60,020,000
Obligations payable out of reimbursements from other accounts			
01 Personal services, civilian	196,129	229,000	237,000
02 Travel	23,408	30,700	31,000
03 Transportation of things	4,614	5,600	5,700
04 Communication services	435	500	500
05 Rents and utility services	74,647	109,000	112,000
06 Printing and reproduction	1,619	1,800	2,000
07 Other contractual services	87,373	117,900	121,000
08 Supplies and materials	117,716	147,600	152,000
09 Equipment	370,484	779,990	459,690
10 Lands and structures	62,048	77,800	79,000
15 Taxes and assessments	98	110	110
Total obligations payable out of reimbursements from other accounts	938,571	1,500,000	1,200,000
Obligations incurred	62,485,903	62,523,173	61,220,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$26,234,491	$25,501,226	$26,524,399
Obligations incurred during the year	62,485,903	62,523,173	61,220,000
	88,720,394	88,024,399	87,744,399
Deduct:			
Reimbursable obligations	938,571	1,500,000	1,200,000
Unliquidated obligations, end of year	25,501,226	26,524,399	27,544,399
Total expenditures	62,280,597	60,000,000	59,000,000
Expenditures are distributed as follows:			
Out of current authorizations	62,280,597	39,000,000	39,000,000
Out of prior authorizations		20,981,000	19,999,000
Out of anticipated 1952 supplemental for pay increases		19,000	1,000

Summary of Projects

Mr. Rabaut. We will take up now "Flood control, Mississippi River and tributaries." Please insert the summary of projects at this point.

(The summary is as follows:)

Flood Control, Mississippi River and Tributaries

Summary of projects (direct obligations)

Project No.	Purpose of project	Actual obligations fiscal year 1951	Estimated obligations fiscal year 1952	Estimate fiscal year 1953
(1)	(2)	(3)	(4)	(5)
	MAJOR CAPITAL OUTLAY			
1	Construction (lower Mississippi River and tributaries):			
	(a) Main-stem work	$30,116,140	$30,690,000	$30,800,000
	(b) Off-main stem work	18,583,413	15,346,350	14,200,000
	CURRENT EXPENSES			
1	Maintenance (lower Mississippi River and tributaries):			
	(a) Main-stem work	10,994,850	13,472,329	13,175,000
	(b) Off-main-stem work	1,702,483	1,335,494	1,652,000
2	Administration (salaries, Office, Chief of Engineers, allotment roll)	150,446	179,000	193,000
	Total direct obligations	61,547,332	61,023,173	60,020,000
	Proposed supplemental due to pay increase	0	−20,000	0
	Prior year balance available	−650,105	−503,173	0
	Balance available in subsequent year	+503,173	0	0
	Total appropriation or estimate	61,400,400	60,500,000	60,020,000

Appropriations made to date from the $1,292,748,500 authorized by the Flood Control Act of May 15, 1928, as amended by the acts of June 15, 1936, June 28, 1938, Aug. 18, 1941, Dec. 22, 1944, July 24, 1946, June 30, 1948, and May 17, 1950

	Total appropriation	Maintenance expenditures
May 28, 1928 (Second Deficiency Appropriation Act)	$14,000,000	(1)
Feb. 28, 1929 (War Department Appropriation Act, fiscal year 1930)	30,000,000	(1)
May 28, 1930 (War Department Appropriation Act, fiscal year 1931)	35,000,000	(1)
Dec. 20, 1930 (Emergency Construction Act)	3,000,000	(1)
February 23, 1931 (War Department Appropriation Act, fiscal year 1932)	35,000,000	(1)
July 14, 1932 (War Department Appropriation Act, fiscal year 1933)	32,000,000	(1)
July 21, 1932 (Emergency Relief and Construction Act)	15,500,000	(1)
Mar. 4, 1933 (War Department Appropriation Act, fiscal year 1934)	19,653,424	(1)
NRA (amounts allotted by PWA, fiscal year 1934)	44,000,000	(1)
Apr. 26, 1934 (War Department Appropriation Act, fiscal year 1935)	29,000,000	(1)
Apr. 9, 1935 (War Department Appropriation Act, fiscal year 1936)	15,000,000	(1)
May 15, 1936 (War Department Appropriation Act, fiscal year 1937)	15,000,000	(1)
May 28, 1937 (Second Deficiency Act)	1,000,000	(1)
July 19, 1937 (Emergency Relief Appropriation Act of 1937)	2,000,000	(1)
July 19, 1937 (Civil Appropriation Act, fiscal year 1938)	30,000,000	(1)
June 11, 1938 (Civil Appropriation Act, fiscal year 1939)	31,000,000	(1)
June 28, 1939 (Civil Appropriation Act, fiscal year 1940)	39,000,000	(1)
June 24, 1940 (Civil Appropriation Act, fiscal year 1941)	30,000,000	(1)
May 23, 1941 (Civil Appropriation Act, fiscal year 1942)	22,000,000	$6,646,854
Apr. 28, 1942 (Civil Appropriation Act, fiscal year 1953)	29,954,000	13,044,694
June 2, 1943 (Civil Appropriation Act, fiscal year 1944)	14,000,000	10,253,888
Dec. 23, 1943 (First Supplemental National Defense Act)	5,000,000	
June 26, 1944 (Civil Appropriation Act, fiscal year 1945)	26,000,000	9,782,780
Mar. 31, 1945 (Civil Appropriation Act, fiscal year 1946)	30,000,000	10,534,342
First Deficiency Appropriation Act, 1946	15,000,000	
May 2, 1946 (Civil Appropriation Act, fiscal year 1947)	46,000,000	14,311,685
July 31, 1947 (Civil Appropriation Act, fiscal year 1948)	50,000,000	13,507,653
June 25, 1948 (Civil Appropriation Act, fiscal year 1949)	61,000,000	17,080,676
Oct. 13, 1949 (Civil Appropriation Act, fiscal year 1950)	67,000,000	15,790,282
Sept. 6, 1950 (Appropriation Act, fiscal year 1951)	61,400,400	13,088,747
Oct. 24, 1951 (Appropriation Act, fiscal year 1952)	60,500,000	14,500,000
Total	908,007,824	138,541,601

[1] The Flood Control Act approved Aug. 18, 1941, contained in subpar. (g) under the title "Lower Mississippi River" the following proviso: "*Provided*, That funds hereafter expended for maintenance shall not be considered as reducing present remaining balances of authorizations."

Total authorizations	$1,292,748,500
Appropriations minus maintenance	769,466,223
Remaining to be appropriated after fiscal year 1952	523,282,277

Tentative program for fiscal year 1953

MAJOR CAPITAL OUTLAY

1. Construction (lower Mississippi River and tributaries):		
(*a*) Main-stem work:		
Mississippi River levees	$3,300,000	
Bank stabilization works	22,000,000	
Mapping	225,000	
Memphis Harbor	1,250,000	
Morganza control structure	4,025,000	
Subtotal		$30,800,000
(*b*) Off main-stem work:		
St. Francis Basin	$500,000	
Lower Arkansas River	500,000	
Yazoo River Basin Reservoirs	6,000,000	
Tensas River Basin:		
Boeuf and Tensas	1,714,000	
Red River backwater levee	1,286,000	
Atchafalaya River Basin:		
Levees	950,000	
Structures	3,250,000	
Subtotal		14,200,000
Total construction		45,000,000

Tentative program for fiscal year 1953—Continued

CURRENT EXPENSES

1. Maintenance (lower Mississippi River and tributaries):		
(*a*) Main-stem work	$13,175,000	
(*b*) Off main-stem work	1,652,000	
Subtotal	14,827,000	
2. Administration (salaries, Office, Chief of Engineers allotment roll)	193,000	
Total maintenance		$15,020,000
Grand total		60,020,000

General Feringa, it is always a pleasure to discuss with you the problems of the Mississippi River. I suppose, General, you would like to make a general statement?

General FERINGA. Yes, sir.

GENERAL STATEMENT

Mr. Chairman and gentlemen, I am Gen. P. A. Feringa. I am President of the Mississippi River Commission. I am stationed at Vicksburg, Miss. I am accompanied by Mr. Darling, who is stationed in the Office of the Chief of Engineers. I am also accompanied by Mr. Aldridge from my office at Vicksburg.

COMMITTEE INSPECTED THE MISSISSIPPI PROJECT

I have no formal prepared opening statement because I am so delighted that most of the committee took a trip down the Mississippi River and saw that project for themselves. Judge Kerr, we missed you. But I know the Roanoke River is important, and I am glad for your people on the Roanoke River that you took good care of them.

We hope some other time you will travel with the committee, to see the Mississippi River work first hand.

I think a trip such as the committee made this fall is extremely worth while.

It seems to me that it is the democratic process, that you realize that you cannot see everything from Washington alone, that you go right down to where the work is being constructed.

For that reason I have not prepared a formal written statement, not only because you gentlemen have seen our work but because in the past 3 years I have made such written statements. I would like to talk from notes.

I would like to bring out some salient facts and then eventually go to the detailed items and describe them one by one.

I think it is important for everyone to realize that the Mississippi River and tributary projects is one project, that the various items are interrelated and dependent one upon the other.

We cannot separate levees from reservoirs. We have to think of the Mississippi and tributary project as one over-all project. It is a project that has been authorized and is being operated for navigation and flood control. It is not one or the other; it is both.

For that reason I am again glad that the committee is hearing our

statement, our testimony, between the river and harbor testimony and the general flood-control testimony.

The project was basically authorized by the law enacted May 15, 1928. There has been subsequent legislation and the project has been enlarged, but the plan adopted in 1928 is and remains basically the same.

It is a basin-wide plan. It is not just for part of the river valley. It is basin-wide, from the confluence of the Ohio and Mississippi all the way into the Gulf of Mexico, and embraces the various tributaries along with the main stem.

It is operated under the Chief of Engineers by the Mississippi River Commission. That Commission was started in 1879, as authorized by law at that time.

The Commission consists of three members of the Corps of Engineers, General Shingler, Colonel Graves, and myself, two civilian civil engineers, Mr. Pyburn and Mr. Salisbury, one successful business man, General Culbertson, who has his title from the First World War and who is not in the Army now, and Admiral Colbert, who used to be Chief of the Coast and Geodetic Survey, who is now retired but who still functions on our Commission.

The work is done by means of three districts: the Memphis district under Colonel Foote, the Vicksburg district under Colonel Dixon, and the New Orleans district under Colonel Holle. They are Regular Army engineers.

It is a cooperative venture. It is operated by the levee boards and the Corps of Engineers. The levee boards have to provide the lands, hold the United States free from damage, and maintain the projects. They retain ownership of the lands.

The Federal Government does not own the levees: the ownership stays in the levee boards. The authorized cost is $1,292,748,500. There has been appropriated to date $769,466,223.

Local interests started the work about 1714 and since that time, including this fiscal year, have spent $340,900,000.

The Mississippi River Basin is a vast basin. On your left, on a map of the United States, we have outlined in heavy black the Mississippi River and its basin.

It contains in round numbers 1,250,000 square miles. It drains 41 percent of the United States and a very small part of Canada. Its tributaries include the Ohio. That includes, under the Ohio, the Tennessee, Cumberland, and the Wabash. The Wabash is a heavy contributor. There is the upper Mississippi, the Missouri, the St. Francis, the west Tennessee tributaries, the Yazoo, the White, the Arkansas, the Red, the Black, and the Ouachita.

In order to meet our flood threats we plan our work to cope with a flood which may be as high as 3,000,000 cubic feet per second.

That design flood was worked out in collaboration with the experts of the Weather Bureau.

I still think of the project as a tremendous funnel which catches all the rain and the snows which melt over 41 percent of the area of the United States. That water has to go down the comparatively narrow spout of the funnel from Cairo to the Gulf of Mexico.

That spout from Cairo to the Gulf of Mexico is about 1,000 miles long. The average width of the river, that is between banks, is about 1 mile; between levees it averages about 5 miles. That is an important point because we do not levee the river itself, as the members

of the committee that have seen the project know. Our levees are not perched on the riverbank. We levee the partial flood plain, so that we have a valley storage area for the river itself. When the river is within its banks, it continues the normal scouring action, hence the river remains what geologists call "poised," or balanced.

It is not deepening its bed. It is not filling up its bed. Since 1888 the general condition of the river is about the same. I do not mean that there is not a sand bar formed one year that is washed away the next year. But over all the river bottom remains about stationary.

To meet this tremendous amount of water, this threat of this tremendous amount of water, this 3 million cubic feet per second, we need all logical effective means of flood control.

We need reservoirs not only within our own alluvial basin but also on all the rivers which I have enumerated and which are in the flood-control general plan. We need levees; we need cut-offs; we need revetments; and we need floodways.

The status of those various means are as follows: Of the reservoirs in the alluvial valley, four out of five are complete. Last year three out of five were complete. We completed or will complete Enid the balance of this fiscal year.

As to levees, and I will go into all those items later, we will have 1,250 miles complete out of the 1,599 miles on the main stem.

For the revetments, we will have 246½ miles out of the 450.5 miles contemplated.

The cut-offs, 16 of them, are all complete.

For the floodways—you might point to those Mr. Aldridge—the New Madrid and the Bonnet-Carre floodways are complete. The Atchafalaya, which includes the Morganza, is under construction. I will cover that in detail later in my testimony.

NAVIGATION

Navigation is booming; you can get some of those navigation pictures out, Mr. Aldridge. Our tonnage on the Mississippi River from the Gulf of Mexico to Minneapolis and St. Paul for the calendar year 1950 amounts to slightly less than 67 million tons. That is for both deep sea and barge traffic. That is on the Mississippi River itself.

I have some pictures here which I would like to show to the committee, if you can see them from where you are.

The first one shows a tow, a normal tow of barges carrying automobiles downstream probably from Evanston, Ind., to Memphis. Those are old-type barges.

The second one shows a type of barge built especially to carry automobiles. Those automobiles are loaded with enough gasoline to be driven on and driven off, disembarked.

The next photograph is one showing the *Cliffs Victory*. That is a Victory ship bought for the Great Lakes, stripped, and the stern supported by pontoons and, as I say, is now in the Great Lakes. It moved up the Mississippi in tow. You can see the other barges right alongside of it.

The next photograph shows the *Guadalcanal* up-bound. It pushes barges loaded with scrap iron, pipe, sulfur, oil, and the covered barge probably carries sugar.

The next photograph shows two tows. One is a modern auto tow going upstream; the other is a steamboat pushing barges loaded with iron products going downsream. This photograph shows up-bound traffic. The majority of the load in the barges consists of sulfur.

This photograph shows three types of ships. The ship on the left of the picture is an Army transport training ship. They use that to train their Reserve units.

The other one shows a miscellaneous cargo going upstream, and the one in the distance is so far away that you cannot see what it is carrying.

This photograph is a modern oil tow designed especially for carrying oil. The tow of that type, including the motive power and the barges, is estimated to cost about $1 million. It carries 93,000 barrels of petroleum.

The most modern of those tows is a ship propelled by about 5,000 horsepower. That tow in the picture carries about 3,200 horsepower. But the most recent towboat has about 5,000 horsepower. It pushes as much as 200,000 barrels of oil. That is equivalent to two modern oceangoing tanker loads of oil.

Mr. RABAUT. Two modern tankers?

General FERINGA. Yes. A modern tanker will carry about 100,000 barrels, and this *Ashland* tow will carry as much as 200,000 barrels. It is powerful.

Here is a photograph that I had taken last year because I wanted to show the direct influence this traffic on the Mississippi River has to our getting ready for, as I said last year, an unwelcome war which may be forced upon us.

That tow is mostly empty oil barges downstream but now carrying loads of jeeps, Army trucks, passenger vehicles, pipe and those covered barges are probably grain.

I brought those pictures along because I wanted to refresh the committee members' memory on the tremendous variety of transportation that is carried.

RIVER TRAFFIC INCREASE

Mr. Aldridge, will you show the next photograph? It shows the traffic in years for the last 15 years. The members of the committee who made a trip on the Mississippi River will recall the chart. I had it on the boats, but I think it is important to realize that since 1935 there has been a steady growth of traffic on the Mississippi River, with the exception of the years 1945 and 1946. In those year the traffic fell a small amount due to a regrouping of the prime movers pushing the barges and the barges themselves.

The percentage of that traffic for 1950 is: Petroleum, 63 percent; various ores, 7 percent; iron and steel, that is mostly downstream, 5 percent; gains, downstream, 4 percent; sulfur, mostly upstream, 3 percent; sugar and molasses, 3 percent; chemicals in an increasing volume from the Texas coast, 3 percent; coal and coke in decreasing quantity, 2 percent; food products, 2 percent, forest products upward, 2 percent; and the many miscellaneous items, 6 percent.

I would like to present to you and bring out that there is in the budget before you, the estimate submitted by the Bureau of the Budget, there are absolutely no new starts. That is the same as last year.

STATUS OF OBLIGATIONS

I would like to bring out also that there was an unobligated balance at the end of the last fiscal year, that is, as of June 30, 1951, of $501,417, that at the end of this calendar year, since we have the appropriation of $60 million, that is January 1, 1952, our unobligated balance stood at $17,565,862, that I estimate our unobligated balance at the end of this fiscal year to be $280,000. I think my estimate will be correct.

(The information is as follows:)

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES

Unobligated balance

Obligations obligated during month of—	
July 1951	$4,644,624
August 1951	11,139,676
September 1951	14,352,127
October 1951	4,403,664
November 1951	4,054,440
December 1951	4,599,226
Total obligated July 1–Dec. 31, 1951	43,193,757
Unobligated balance Dec. 31, 1951	17,565,862
Estimated unobligated balance as of—	
Jan. 31, 1952	14,138,151
Feb. 29, 1952	11,518,532
Mar. 31, 1952	9,117,461
Apr. 30, 1952	6,357,997
May 31, 1952	2,201,973
June 30, 1952	280,000

Unobligated balances by features

	Unobligated balances	
	Dec. 31, 1951	Estimated June 30, 1952
Construction, main stem:		
Mississippi River levees	$2,761,806	$3,533
Bank stabilization	4,201,743	15,513
Mapping	179,394	12,194
Memphis Harbor	285,508	255
Morganza structure	959,320	0
Subtotal	8,387,771	31,495
Construction, off main stem:		
St. Francis River Basin	181,604	0
Lower White River Basin	50,380	948
Lower Arkansas River Basin	192,427	0
Yazoo River Basin	1,732,574	30,138
Tensas River Basin	792,127	0
Lower Red River	215,056	0
Atchafalaya River Basin	986,369	5
Subtotal	4,150,537	31,091
Total	12,538,308	62,586
Maintenance	4,231,554	217,414
Unallotted, Dec. 31, 1951	796,000	0
Grand total	17,565,862	280,000

Therefore, for 1953 we will have only the funds which are in the estimate before you, rather, the funds which you gentlemen of Congress will vote. There will be absolutely no carry-over funds.

EXCELLENCE OF PERSONNEL

I want to say a word about our personnel. I want to say they are excellent. I consider them as my colleagues. You will see, when at the end of a working day and it is time to go home, no people standing in front of the door ready to rush out. Rather, you will see people looking over their work, and leisurely, after working hours, getting out after they have finished their jobs. They are working for their jobs; they are not working to get their time in.

You will see many people losing their leave because they are more interested in their work than to get their leave.

You will see hardly anyone insisting that they have so much sick leave coming to them. Their first interest is in an honest day's work for the money they earn.

REDUCTION IN FEDERAL EMPLOYMENT

We have reduced our employment because we know that there is a need for able and trained individuals throughout the United States. We are down to the minimum.

I would like to show you the next chart which I have prepared. The top chart is the strength by month and average strength for my own office, that is the Mississippi River Commission office at Vicksburg.

You will see that it goes from an average in 1949 of 261 to an average in 1951 of 199. The average of 1951, however, has about 10 spaces earmarked for people who are now serving in the Armed Forces.

I bring that out to show that we are down to a minimum. Actually, we have in our employ in our office 194 at the end of December.

The over-all chart for our whole three districts, including my own personal office, shows an average employment in 1949 of 7,105, an average employment of 1950 of 5,971, and in 1951 of 5,415.

We have reduced that employment by economy, by using every labor-saving device that we could develop. The members who made a trip there will recall one such labor device on our revetment plant where instead of using 18 to 20 men we have it down to 3 men.

We do not hesitate to work overtime, feeling that at this time there is economy to work people overtime rather than to employ additional ones.

You may wonder why I have talked about personnel. I do that to point out that we are down to the minimum. I hope there will be, and I speak in all deference, no arbitrary cut, because an arbitrary cut on top of what we are down to would definitely hurt, and I say that without equivocation.

I also wanted to pay tribute to the fine, able, hard-working individuals who are working for us, especially at a time like this. Our people are fine.

GENERAL FLOOD CONDITIONS

I would like to describe very briefly the conditions of the water levels in the Mississippi River at the present time.

At Cairo, the gage on the 19th stood at 37.4, and the flood wall, as you all recall, the top of the flood wall is at 64.7. So we have a pretty fine condition at Cairo at this time.

Mr. RABAUT. What is normal at Cairo?

General FERINGA. There is nothing like normal. The flood wall is 64.7. Last year at this time at Cairo we stood at about 45. If anything, we are below normal, if there is such a thing as normal for the Mississippi River.

Mr. FORD. How does that figure compare with this year?

General FERINGA. We are lower this year than we were last year and the year before. We are about 15 feet lower than we were a month ago at this time. We are about the same as I imagine the river was when you all were there. That is unusual at this time of the year.

Mr. RABAUT. The snows lifted it?

General FERINGA. Yes, sir; I was going to come to that. In the Ohio Basin there is practically no snow cover, at present. On the upper Mississippi River there is not much snow; on the Missouri River there is more snow.

I have a snow map here with me which I will leave with the committee if anybody wants to look at it.

The Kentucky Dam on the TVA has only about 2 percent of its flood volume occupied. It is below its rule curve, so that is a healthy condition.

I bring that out to show the close cooperation which exists with the TVA and the operation of its reservoirs, and the Corps of Engineers which must take care of the water.

The quantity of water at Vicksburg last Saturday was 1,050,000 cubic feet per second. And when the committee took its trip down the Mississippi, at Vicksburg it stood at 650,000 cubic feet per second.

The project flood, of course, is 3 million cubic feet per second, so the river is well within its banks.

The gage at Vicksburg and Natchez has been stationary for practically the last 30 days. That shows that the lower river is pretty full. That is due to the fact that the White River has been in flood. The Arkansas River has been high. The St. Francis has been in flood.

The condition, then at this time, on the Mississippi River from the high-water viewpoint is good. But 14 days of heavy rain on the Ohio Valley or even 10 days could give us high water. On the other hand, if we get 10 days of fair weather in the Ohio Valley we would have a very splendid condition.

IMPORTANCE OF THE PROJECT

During World War II—and I am nearly through—the Mississippi River and tributary project was continued, because Congress felt that it was important for the national welfare, both from the standpoint of flood control and navigation that this project should be continued.

From the standpoint of navigation, transportation carried by water, the river is essential, in my opinion, to the national prosperity.

As I mentioned, it carries oil, sulfur, salt, iron products, scrap, autos, trucks, grain, sugar, and the even flow of those products should be continued because if they were not it would be a bad blow to the national economy.

NATURAL RESOURCE

With flood control the valley is productive. It is an asset to the United States. To my mind, the work we are doing, as authorized by Congress, as appropriated for by Congress, due to the foresight of Congress, is the development of a tremendous national natural resource, not an exploitation, if it continues to be developed.

If our work goes ahead, the river remains an asset; if our work stops, it becomes a debit.

It is my hope that the project goes forward as rapidly as possible so it will continue to add to the national wealth.

1953 ESTIMATES

The estimate submitted to you by the Bureau of the Budget is $60,020,000, of which $15,020,000 is for maintenance; for the construction estimate it is $45 million.

It is shown by the tabulation which is mounted on the bookcase over there on the left, broken down into respective items. The committee asked me last year to show the percentages of completion, both for the end of the present fiscal year and the end of the fiscal year 1953.

Mr. Chairman, I have taken an awful lot of your time. I am able to go into the individual items if you want to.

Mr. KERR. What is that black line that follows the flow of the river on that chart?

General FERINGA. This chart I have here shows the Mississippi River. Our work starts at Cape Girardeau. You cannot quite see Cape Girardeau on the map. There [pointing] the Mississippi River joins the Ohio, or, the Ohio joins the Mississippi River at the confluence. That is at Cairo.

The blue line is the Mississippi River itself. The black, yellow, red, and green lines are the levee lines which are continuous, as you see, on the right or west bank, and are intermittent on the left or east bank.

Then these black lines, Judge Kerr, are completed levees. The yellow lines are levees not completed, not underway; the green lines show the levees which are now under construction; the red lines show the levees which are included in the estimate which is before you.

ALLOCATIONS BY FISCAL YEARS

Mr. RABAUT. General, will you please furnish for the record allocation tables similar to those appearing in the justifications on pages 424 and 425 for the last five fiscal years?

General FERINGA. The answer is yes, sir.

(The table requested follows:)

Allocations by fiscal years—Flood control, Mississippi River and tributaries

	Allocated, fiscal year 1948	Allocated, fiscal year 1949	Allocated, fiscal year 1950	Allocated, fiscal year 1951	Allocated, fiscal year 1952 (estimate)
Mississippi River levees	$4,788,500	$9,273,300	$5,272,305	$6,848,500	$6,888,000
Revetments	16,496,080	24,244,771	28,950,021	25,080,500	24,168,000
Dredging	3,953,500	4,707,829	4,627,200	3,638,000	3,100,000
Mapping	118,600	285,000	314,000	184,500	250,000
Memphis Harbor	820,000	1,345,000	2,355,000	1,550,000	1,400,000
Morganza floodway	2,095,000	1,862,403	4,846,497	5,814,000	6,690,000
St. Francis Basin	1,094,800	720,000	630,000	747,000	713,000
Lower White River	868,200	329,300	210,200	161,000	448,000
Arkansas River levees	387,000	1,535,500	476,641	1,226,000	700,000
Yazoo River Basin	4,880,100	6,074,909	9,065,359	9,593,000	7,420,000
Big Sunflower	100,000	0	97,000	286,000	0
Boeuf and Tensas	926,000	895,000	530,000	1,350,000	1,720,000
Red River backwater	1,100,009	70,000	916,000	1,000,000	1,200,000
Lower Red River	702,500	1,005,000	1,013,400	558,000	250,000
Atchafalaya River Basin	7,088,000	3,741,597	4,922,100	3,568,524	4,464,000
Bayou Rapides, Boeuf, and Cocodrie	1,082,000	445,000	495,403	399,000	14,000
Surveys, gages, and observations	508,300	876,600	887,800	886,000	800,000
Bonnet Carre spillway	47,900	133,000	148,000	329,881	110,000
Plant	2,690,000	2,618,600	969,309	2,014,000	0
Subtotal	49,746,480	60,162,809	66,726,235	61,205,905	60,335,000
Waterways experiment station	108,700	647,100	24,474	0	0
Office, Chief of Engineers, salaries	143,820	190,091	208,091	194,495	165,000
Rock Island section 6 levees	1,000		41,200	0	0
Total	50,000,000	61,000,000	67,000,000	61,400,400	60,500,000

COMPLETED LEVEES AND REVETMENTS AND AVERAGE UNIT COST

Mr. RABAUT. Will you furnish for the record a table which will show annually for the past 5 years the miles of completed levees, main stem and off-main stem, completed revetments, and also show the average unit cost annually for both?

General FERINGA. That we will do, sir, and can do. I hope the committee will bear with us because due to the fact that our personnel is down to the minimum it will take a little time. Mr. Aldridge will have to get in touch with the districts. We can have the report in 10 days.

Mr. RABAUT. We will have patience with you.

General FERINGA. All right, sir.

(The information requested was not furnished at the time of printing and may be found in appendix at the end of the printed hearing, part 1.)

Mr. RABAUT. What work have you done or will you do for 1952 on the project at Des Arc and the levees on the lower White River from Augusta to Clarendon?

DES ARC, ARK.

General FERINGA. On Des Arc, there was in the Senate report on last year's appropriation—I am talking from memory—a statement that the Senate committee wanted that work to go forward. There was included for the two projects, Augusta to Clarendon, and Des Arc, something between $400,000 and $500,000, something around $483,000, set up for that.

I have written to the Chief of Engineers recommending that we do the Des Arc project, but because the full amount needed was cut, that we do not do the Augusto to Clarendon project at this time.

In my opinion Des Arc has a higher priority than Augusta to Clarendon. I know all flood control is important. In this instance Des Arc is the most urgent. I feel we will be able to get that project started this fiscal year, providing local interests make the rights-of-way available. I think that is within the intent of the committee.

Mr. RABAUT. How does the Des Arc project compare with some of the other projects which have been submitted but on which no work has been done?

General FERINGA. Des Arc, like any small local flood protection project, and I think Des Arc would cost in the neighborhood of $228,000, is important because it provides complete protection for a comparatively small community.

It has a high percentage of benefit to cost. It can be done in 1 year. That community has been flooded every 2 or 3 years. I cannot say it is more important than Yazoo City. The Yazoo floods nearly every year. I would like to see Yazoo City started, too.

YAZOO CITY

Mr. RABAUT. Is Yazoo City included this year?

General FERINGA. It is not included this year, sir, and to answer your previous general question I recommended to the Bureau of the Budget that it be so included. Yazoo City and Des Arc are practically the same kind of projects. The people in Yazoo City get wet every year. But Des Arc is less costly than Yazoo City.

Mr. RABAUT. General, the subcommittee was quite interested in many things which came its attention on its recent inspection trip of the lower Mississippi River project.

CAPTURE OF THE MISSISSIPPI BY THE ATCHAFALAYA

One of these was the concern expressed by many people contacted by the subcommittee over the possibilities of a tendency of the Mississippi to forsake its own channel and seek its way to the Gulf through the Old and the Atchafalaya Rivers. Would you comment on this matter?

General FERINGA. Yes, sir. The distance from the confluence of the Old and the Mississippi by the means of the Atchafalaya is about one-third of the distance of the Mississippi River from the confluence of the Old and Mississippi down to the Gulf of Mexico.

Obviously, therefore, the shorter channel with a greater rate of fall is a much more attractive proposition to the water that wants to get down to the level area of the Gulf.

The problem is one that is now being actively studied by the Mississippi River commission. It has been so studied for the last year and a half. There are two studies under way, directed by the Chief of Engineers.

One is a geologic study, so that we are finding out all the various types of geologic information such as the layers of sand, soil and every other kind of subsurface information; the other is an engineering study, sedimentation, and what from such a viewpoint can logically be expected.

The combined flow of the Old, the Red, the Atchafalaya and the Mississippi shows that the percentage going down the Atchafalaya has steadily increased.

About 28 percent of the combined fl.ow went down the Atchafalaya, about 3 years ago, and its now about 30 percent.

Mr. RABAUT. How much was it before?

General FERINGA. 28 percent. So, within the last 3 years the increase of the total volume going down the Atchafalaya has risen about 2 percent and the same decreased on the Mississippi River.

Mr. RABAUT. Has anything been done engineering-wise to encourage that or it it happening of its own accord?

General FERINGA. The increased flow of the Atchafalaya was contemplated in the basic plan, where the Atchafalaya was planned to carry 650,000 cubic feet in major flood, hence the Atchafalaya was enlarged in order to be able to carry that amount of water.

Dredging was done. The widths between the bridge abutments were increased. Among other places dredging was done at Whiskey Bay Pilot Channel, to which Mr. Aldridge is pointing, in order to give a shorter path for the Atchafalaya.

To come back a minute, the commission is making a study. We are having a meeting of consultants this coming February, and the commission itself is going to go through the area again later in February.

The commission has requested that I, the president of the commission, make a final report to it on the coming highwater trip, which would be about in April, at which time we will come to a conclusion as to whether or not in our opinion, the opinion of the commission, the Atchafalaya, if let alone, will capture the Mississippi.

At this time, inasmuch as the commission has not completely acted on that, I would rather not give you my personal opinion.

Mr. RABAUT. What would be the effect if it does capture the Mississippi wholly or in a substantial portion?

General FERINGA. The immediate effect is that the Atchafalaya would enlarge to the size of the Mississippi, hence the railroad bridge at Simsport and the highway bridge would be inadequate. The railroad bridge at Melville would be inadequate. The railroad and highway bridge at Krotz Springs would be inadequate. The capacity of the river between Morgan City and Berwick would be inadequate. It would require a rebuilding of all those facilities on the Atchafalaya.

Also, at New Orleans, instead of having fresh water going by New Orleans, that would become salt water.

It would be hard to determine just what would take place from New Orleans to Baton Rouge.

Mr. RABAUT. Suppose this happened, could it be controlled by certain engineering works?

General FERINGA. That, of course, Mr. Rabaut, is what is being studied.

First of all, the commission has to determine as a commission, will the Atchafalaya if left alone capture the Mississippi.

I have my own personal opinion and conviction on that now, but I would rather not give that as my individual opinion until the commission completes its study and reports to the Chief of Engineers. It is making that study at the direction of the Chief of Engineers.

If the commission finds that the Atchafalaya if left alone would capture the Mississippi, it would study ways and means to prevent such an occurrence. We are now giving consideration to measures which could be taken to prevent such a happening, because I think it would be very disastrous if it should happen.

I might bring out that when Mr. Ford was on the Public Works Committee of the House I had the pleasure of testifying before that committee. I testified and discussed at that time, at the 1949 and 1950 hearings, about an Old River control structure.

There is testimony in the record before the Public Works Committee of the House on that subject, sir.

Mr. RABAUT. Will you advise the committee after the high water meeting of the Mississippi River Commission of your findings?

General FERINGA. We will submit the study as soon as completed to the Chief of Engineers and we will pass on to the Chief of Engineers your request that the results of that study be made known to your committee, is that right?

RECREATIONAL DEVELOPMENT

Mr. RABAUT. Yes. What is your program for the recreational development of the off-main-stem reservoir?

General FERINGA. We have five reservoirs: Wappapello on the St. Francis, Sardis, Arkabutla, Enid, and Grenada on the Yazoo.

Our program for recreation consists of making boat landings, swimming beaches available, and so forth, usually by lease to the highest bidder.

On the returns of those leases, 25 percent goes to the United States by law and 75 percent goes to the counties to help pay for their schools and roads due to the loss of revenue on account of the reservoir.

We do not have a program that you might call recreation and education. We do have a program of helping everybody possible and helping the people make use of the benefits they have by having a beautiful water supply.

There is a tremendous amount of fishing. We do not stock the lake; the State stocks it with fish. At Sardis alone there was over 1 million pounds of fish caught a year ago. I do not have last year's figures. We do not pay Government money to stock the fish. The State does that.

Mr. RABAUT. How much money has really come into the Treasury from these projects?

General FERINGA. For Wappapello, the average revenue, that is, all land leases, was $25,300. The percentage is 25 to the United States and 75 percent to the counties.

Mr. RABAUT. What is the total?

General FERINGA. For Wappapello, that was the total per year. For Sardis, $58,700. For Arkabutla, $23,400. Enid is still barely operative, so we do not have anything for it and will not have until next year. Grenada is not finished.

Mr. RABAUT. To what extent are local interests participating in the development of each of these projects?

General FERINGA. We will put in an access road then, for instance, at Sardis the State has made an appropriation, I think, of $250,000—I would like to correct that figure; I will not miss it by much—to develop a State park in connection with such access roads. The roads are needed for our own development of the reservoir.

The State will develop it. They will build houses and roads. Below the reservoir the city of Sardis, through, I think, the junior chamber of commerce, has set up a change house, so that people can change their clothes after swimming. They operate that. They run it.

The advantage to Sardis is to attract a lot of people from Memphis. During the Fourth of July they had thousands of them there. They had boat races, and so forth. Does that give you a general answer?

COMPLETION OF PROJECT

Mr. RABAUT. While on this trip the committee's attention was called to a statement by General Pick to the effect that the target date for completion of over-all projects on the lower Mississippi was January 1, 1953. He said, "I know of no present indication that that schedule will not be met."

The article says this statement was concurred in by Colonel Holle, New Orleans district engineer. Would you care to comment on the accuracy of these statements?

General FERINGA. I, of course, cannot comment for General Pick, but I think he was talking about the Morganza control structure and not for the whole Mississippi River project, sir, because he knows the project and he could not have meant that. The answer is correct for the Morganza control structure.

(Discussion of the record.)

EFFECT OF LEVEE BREAKS

General FERINGA. The Mississippi River during floods on the west bank is held within bounds, by levees.

If, for instance, the levee above Cairo on the Little River broke, the Mississippi being an alluvial stream, having its banks higher than its surrounding territory. The banks are higher by nature due to its being an alluvial stream, if one of these levees broke that water would not come rushing right back into the river as it would in the Roanoke River where the banks are lower than the surrounding valley, but would go all the way down the St. Francis River Basin over many, many square miles and would not find its way back into the Mississippi River until you come to the confluence of the St. Francis and the Mississippi River at the vicinity of about 10 miles north of Helen.

Mr. KERR. The entire basin would be flooded?

General FERINGA. Yes; to a greater or lesser extent.

Even more important, or just as important, right below Memphis on the east side, if the levees below Memphis should break, again that bank being on an alluvial stream is higher than the country immediately east thereof, the water would not find its way back into the Mississippi River until it came all the way down the Yazoo Basin and comes in at Vicksburg.

That happened in 1927 when the levee broke north of Greenville, and all this area to which I am pointing south of Greenville was flooded with heavy sand residue and all drainage was stopped and the entire country endured flood and suffering. So, when you ask how much of it would be flooded, the entire alluvial basin would be in danger if the flood measures were not carired out.

Mr. RABAUT. How long are all the levees?

General FERINGA. The main-stem levee is 1,599 miles long, of which 1,250 miles will be up to grade and section at the end of this year.

The total miles of levees, main-stem and tributary, amount to 3,554 miles. That distance is the same as from Washington to London.

WEDNESDAY, JANUARY 23, 1952.

SUPPLIES AND MATERIALS

Mr. FORD. General Feringa, I notice on page 416, item 08, supplies and materials, a rather substantial increase is requested. How do you account for that item being so much larger than it was in the previous year?

General FERINGA. Those items are made up in the office, Chief of Engineers. As I understand it they are going to go over that with the committee and give a breakdown of the various categories at a later date. I have no offhand information as to why there should be such an increase, except that supplies and materials are more costly this year than they were before.

The increased cost of $226,400 is due in my opinion, to the increased cost of supplies and materials, because the amount of our construction in 1953 and 1952, based upon the budget estimate, will be practically the same.

LANDS AND STRUCTURES

Mr. FORD. I notice in the item designated 10, lands and structures, a substantial decrease of $1,138,273.

General FERINGA. That undoubtedly would be occasioned in part because of the Enid Reservoir having been completed. As I told you last year, you may remember, we hoped to complete the Enid Reservoir below the estimate; and that has eventuated, so therefore in 1953 there are funds in for only one reservoir instead of two. I am giving this answer based on my opinion and the final testimony will be complete when the Chief of Engineers office comes in with the breakdown of categories in question. This is broken down into the various categories as required by the Bureau of the Budget. It is prepared in the Chief's office, based upon information sent in by the field.

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APPROPRIATION, LOWER MISSISSIPPI RIVER

Mr. FORD. In this fiscal year the lower Mississippi River and tributaries had an appropriation of $60,500,000.

General FERINGA. That is correct, sir.

Mr. FORD. In 1953 the estimate is for $60,020,000.

General FERINGA. That is correct, sir.

OVER CEILING PROGRAM

Mr. FORD. What did your office request of the Bureau of the Budget for this fiscal year?

General FERINGA. We requested $119,238,786. That was based on the logical engineering program, and also included some new starts.

Mr. FORD. What was the amount of the overceiling?

General FERINGA. The total we requested was $119,238,786. The Budget reduced that to $60,020,000. The ceiling by the Budget was $60 million, and the $20,000 was added due to increases in pay, so the difference between the within and overceiling would be $59,238,786.

ITEMIZATION OF AMOUNTS OF PROJECTS STRICKEN BY THE BUREAU OF THE BUDGET

Mr. FORD. Could you give us some itemization of the overceiling amounts that are not included in the budget as presented?

General FERINGA. Yes. As I understand, Mr. Ford, you would like for me to give you the items which we had included in the budget and the budget has stricken out on account of it being classed by the budget as new starts.

Mr. FORD. That is correct.

General FERINGA. We had recommended to the Budget an item for Devils Swamp; a small harbor at Baton Rouge. We had that in, overceiling, for $1,250,000.

We had included an item for West Tennessee tributaries, which is also a new start in the amount of $400,000.

Within the St. Francis Basin, which was an enlarged project, that is additional legislation, but not a new construction start, for which we had recommended $3,409,000.

For the lower White River we had $348,000.

For the Cache River Basin we had an item of $473,000.

For the L'Anguille River we had $430,000.

For the Grand Prairie, Bayou Meto project, $944,000.

For the local protection part of the Yazoo basin, an item of $4,493,000. This includes Greenwood, Yazoo City, and Balzoni.

For the Big Sunflower we had an item of $1,215,000.

For the Lower Red River we had $300,000.

For Lake Pontchartrain we had an item of $940,000.

For the Bayou Rapides, Boeuf, and Cocodrie, an item of $810,186.

On the south bank of the Arkansas River we had $561,000.

Those are all items that the Bureau of the Budget has stricken out completely from the request even though many of them are not new starts from the estimates that are now before you.

Mr. FORD. General Feringa, I think it would be helpful to the committee if we had some explanation in the record of the items that are set forth on page 427, under the major titles, capital outlay.

General FERINGA. Those are reimbursable items, Mr. Ford. We do work for other departments, and we bill the other departments.

For instance, the largest item is for the Coast Guard. The Coast Guard gets its appropriation to mark the Mississippi River; they put up day markers on the bank, and night markers; and we provide the buoys in the channels and we bill them for the work. That is called a reimbursable item.

Mr. FORD. Will you, for the benefit of the committee, give us some information on each of those items?

General FERINGA. We will be glad to do that for each of the items.

Mr. FORD. And also for the subtitles under the major titles of "Current expenses," those shown on pages 427 and 428.

General FERINGA. Yes; we will supply that information.

(The information requested follows:)

The reimbursable obligations referred to classified by projects and source follow, together with an explanation of the agency and nature of work involved in each source.

Standard classification schedule for reimbursable obligations

By objects of expenditure	Actual obligations fiscal year 1951	Estimated obligations, fiscal year 1952	Estimate, fiscal year 1953
(1)	(2)	(3)	(4)
01 Personal services, civilian	196,129	229,000	237,000
02 Travel	23,408	30,700	31,000
03 Transportation of things	4,614	5,600	5,700
04 Communication services	435	500	500
05 Rents and utility services	74,647	109,000	112,000
06 Printing and reproduction	1,619	1,800	2,000
07 Other contractual services	87,373	117,900	121,000
08 Supplies and materials	117,716	147,600	152,000
09 Equipment	370,484	779,990	459,690
10 Lands and structures	62,048	77,800	79,000
15 Taxes and assessments	98	110	110
Total obligation payable out of reimbursements from other accounts	938,571	1,500,000	1,200,000

Summary of reimbursable obligations by projects

Project No.	Purpose of project	Actual obligations, fiscal year 1951	Estimated obligations, fiscal year 1952	Estimate, fiscal year 1953
	MAJOR CAPITAL OUTLAY			
1	Construction (lower Mississippi River and tributaries):			
	(a) Main-stem work:			
	1. Treasury Department, U. S. Coast Guard	$188,053	$305,500	$288,000
	2. Navy Department	2,912	3,800	4,100
	3. Department of Army (military functions)	36,637	94,200	74,000
	4. U. S. Air Force	1,910	5,800	6,500
	5. Other Federal agencies	4,027	4,700	5,000
	6. Non-Federal agencies	169,634	250,000	180,000
	(b) Off-main-stem work (non-Federal agencies)	28,237	45,000	30,000
	CURRENT EXPENSES			
1	Maintenance (lower Mississippi River and tributaries):			
	(a) Main-stem work:			
	1. Treasury Department, U. S. Coast Guard	56,172	82,500	88,000
	2. Navy Department	5,408	7,400	8,000
	3. Department of Army (military functions)	76,091	140,400	120,000
	4. United States Air Force	1,918	5,700	6,400
	5. Non-Federal agencies	366,788	554,900	389,900
	(b) Off-main-stem work (non-Federal agencies)	84	100	100
2	Administration (salaries, Office, Chief of Engineers, allotment roll) (other Federal agencies)	.00	0	0
	Total obligations payable out of reimbursements from other accounts	938,571	1,500,000	1,200,000

Justification of reimbursable obligations by source

Agency	Actual, fiscal year 1951	Estimate, fiscal year 1952	Estimate, fiscal year 1953
1. Corps of Engineers (military functions)	102,419	160,100	104,305
2. Department of the Army (military functions)	10,309	74,500	89,695
3. Department of the Navy	8,320	11,200	12,100
4. Department of the Air Force	3,828	11,500	12,900
5. Treasury Department	244,225	388,000	376,000
6. Other Federal sources	4,727	4,700	5,000
7. Non-Federal sources	564,743	850,000	600,000
Total obligations payable out of reimbursements from other accounts	938,571	1,500,000	1,200,000

The Corps of Engineers is called upon by other agencies of the Federal Government and by various non-Federal interests to perform services requiring engineering ability, equipment, and experience. If the total cost is not too large, these services are usually performed with available funds and reimbursement requested after final charges have been determined. The agencies from which substantial reimbursements are received for credit to this appropriation and the general nature of the work performed are as follows:

Agency and nature of work:

Corps of Engineers, military functions: Trafficability tests; research, development, inspection services, turf investigations.

Department of the Air Force: Airfield investigations and soils tests.

Department of the Navy: Model studies, furnishing supplies.

Treasury Department: Operation of floating plant for maintenance of aids to navigation; rental of barges; setting buoys; repair of equipment; furnishing miscellaneous supplies.

Non-Federal sources: Sale of property; use of Government plant; repairs to boats; seismo-operation; reimbursement for damages.

JUSTIFICATION BEFORE BUDGET BUREAU

Mr. RABAUT. In your hearing before the Bureau of the Budget and in the statement you made to them, did you attempt to justify the $119 million estimate, the $60 million estimate, or did you just list figures in the vicinity of $75 million, as in your opinion seemed to be the most economc rate?

General FERINGA. I justified or attempted to justify three sets of figures: The over-ceiling figure, which I have just given, which amounts to $119,238,786. And I gave them what in my estimation was the minimum program which would carry forward the work without economic loss, which amounted to $72 million. Within that $72 million, of course, was included the $60,020,000 that the budget approved.

Mr. RABAUT. All of the two sets of figures that were in the budget were the budget figures?

General FERINGA. Yes, sir.

CONSTRUCTION

Mr. RABAUT. Will you make a statement concerning these items, General?

General FERINGA. If I may, I would like to report on each item, and at the same time I will be glad to answer any questions.

May I say the amounts are all shown on the chart that is displayed in the left of the room.

MISSISSIPPI RIVER LEVEES

The estimated costs of all the levees on the main stem is $271 million. There has been allotted to date for main-stem levees, $202,306,015. The tentative allocation for 1953 fiscal year, approved by the budget, was $3,300,000.

To answer Mr. Ford's previous question: The overceiling amount that we had requested for levees, including the within ceiling, was $8,707,000.

The levees on the west side of the Mississippi River—which are being pointed out to you on the map—are practically continuous. They start on the Little River in Missouri and go downstream to the St. Francis, skip the mouth of the St. Francis and take up at Helena, Ark., and go to the mouth of the White.

Then they start on the south bank of the Arkansas River and continue downward until you come to the Old River—practically the Old River. Then they skip across the Old River and start in at Pointe Coupee Parish and continue to the Morganza control structure, and on downstream well below New Orleans.

The length of the west bank levees is 1,017 miles.

Then, on the east bank of the river, going downstream from Cairo, is the ring levee protecting Cairo, Ill.; and thence intermittently there are levees from Hickman to the mouth of the O'Bion River. Below Memphis, all the way to Vicksburg, there is a continuing line of levees; from Vicksburg to Baton Rouge, there are no levees because of the high ground. From Baton Rouge on below, there is a continuous line of levees to well below New Orleans.

The levees on the east bank are 582 miles long; on the west bank, 1,017 miles, making a total of the levees on the main stem of 1,599 miles.

Mr. RABAUT. Up above Memphis there are no levees on the east. Why are there no levees; because there is high ground?

General FERINGA. Right above Memphis you will note the high-ground escarpment comparatively close to the river.

Mr. RABAUT. Yes.

General FERINGA. You will note the levee at this point [indicating] near the O'Bion River. We try to keep from encroaching on the flood plain as much as we possibly can, and the average width between the levees is 5 miles; the average width of the river itself is 1 mile.

The funds in the estimate before you will bring the levee projects to 76-percent completion. We will gain 1 percent over what we had this year.

The total area protected is 17,800 square miles. As I stated yesterday, it is not a question of levees or reservoirs; it is a question of levees and reservoirs. The reservoirs are of tremendous importance to the plan of protection.

On this map is displayed here in red the various items which we plan to do and hope to do in the fiscal year 1953.

That is all I have on levees, Mr. Chairman.

Mr. FORD. How many miles do you expect to build with the $3,300,000?

General FERINGA. With the 1953 funds we hope to bring 26 additional miles up to grade and section—they are not new levees; it will bring those below grade or section up to grade and section for 26 additional miles.

Mr. KERR. Can you give us an average cost using some unit of measure, say mile or cubic yard?

General FERINGA. We cannot give you an average cost of the levee, because some levees may be 6 feet below grade; another may be 1 foot below, still others may be deficient in section, and it would not be practical to give an average cost per mile, but we can give the average cost in cubic yards.

Mr. RABAUT. You are to supply a table on that?

General FERINGA. Yes, sir; there will be a table on that.

(The information requested follows:)

Mississippi River levees breakdown, fiscal year 1953

Little River drainage district, Mo.: Nash levee enlargement (completion of continuing contract)	$250,000
St. Johns Bayou drainage district, Mo.: New Madrid levee enlargement	70,000
St. Francis levee district, Mo.: Stewart levee enlargement	80,000
St. Francis levee district, Ark.: Horseshoe Lake levee enlargement	230,000
White River levee district, Ark.: Ferguson levee landside seepage berm	280,000
Tiptonville-Obion River levee, Tenn.:	
Drainage diversion to permit levee construction	250,000
Below Booths Point levee	215,000
Heloise levee	200,000
Upper Yazoo levee district, Miss.: Hillhouse levee enlargement	300,000
Lower Yazoo levee district, Miss.: Valewood levee enlargement	280,000
City of Vicksburg, Miss.: Vicksburg floodwall (continuation of continuing contract)	865,000
Orleans Parish levees, La.:	
Barracks Street levee enlargement	160,000
Toulouse Street levee enlargement	120,000
Total	3,300,000

LOCAL INTEREST AND PARTICIPATION

Mr. RABAUT. General, will you explain to the committee the local interest and participation in this work, and the particular responsibility that they have, including what part of the project is their sole responsibility.

General FERINGA. I can, Sir, and I am proud of the fact that this is a cooperative proposition. Local interests must furnish the lands and rights-of-way. Local interests must agree to hold the United States free from damage. Local interests must maintain the levee after completion. All this means that there are levee boards established, consisting of a president and members, an engineer—not an Army engineer—but a locally engaged engineer and usually a lawyer and a secretary. These levee boards deal directly with the local people concerned; they have inspectors right on the levee in all major sections and districts. They carry on all minor repairs. The United States steps in only if there is a major problem, if the river attacks the levee in such manner that it might go into the river.

LEVEE MAINTENANCE

Mr. RABAUT. Do you get reports from them as to the conditions of the levee and do you make any check-up yourself?

General FERINGA. The district engineers check constantly and I also check constantly to make sure the work is done. Most levee boards issue annual reports, which may be rather voluminous documents; we make constant checks on the sufficiency of maintenance.

Mr. RABAUT. If there should be negligence on the part of the local levee boards in their work, and if there should be a breakdown of a levee, then the repair of the levee becomes the obligation of the Federal Government.

General FERINGA. That is right, sir.

Mr. RABAUT. So it is necessary for you to watch the levees and to a proper checkup on the levee boards.

General FERINGA. It is essential.

Mr. RABAUT. Yes.

General FERINGA. It is vital.

Mr. RABAUT. And it is vital to them as well.

General FERINGA. Yes, sir.

Mr. RABAUT. They ought to be looking after it, of course, because everything in there is for the protection of the people against the ravages of the river when it goes on a rampage.

General FERINGA. In brief, we are constantly telling the boards that the levees are a local responsibility and do not belong to the Federal Government; ownership does not lie in the Federal Government; ownership lies in the levee board and if the levee is maintained, it will protect them. It is a local responsibility.

Mr. RABAUT. And that is where it should be.

General FERINGA. And I agree with you, sir.

Mr. RABAUT. What is your relationship to the local interests and the levee boards; what authority do you have over them?

General FERINGA. We have no authority, but we do have close cooperation, whereby they realize they have to protect the levee and that we are the agency of the Federal Government that must build the levee in the first place.

Mr. RABAUT. So you have what might be called a moral persuasion.

General FERINGA. A strong one, yes, and I want to say that the attitude of everyone in the valley is one of splendid, hearty, wholesome cooperation.

Mr. RABAUT. That is fine. I know from my visit in the valley and in meeting with the various levee board members they have the highest regard for you and your organization.

General FERINGA. Thank you, sir.

BANK STABILIZATION

Mr. RABAUT. Will you tell us about the requested appropriation for bank stabilization?

General FERINGA. The second item on the list that is before you is for bank stabilization. The total estimated cost of that work is $356 million. The tentative allocation to date, $195,706,610. The tentative allocation before you is $22 million. Again answering Mr. Ford's question, the overceiling amount including the within ceiling is $40 million.

It is impossible for me to overestimate or to overemphasize the importance of bank stabilization. It is vitally important to navigation, because without the maintenance of these stabilization works, we would not be able to keep the river open to navigation during times of low water.

The course of the river, due to cut-offs, has been shortened about 162 miles. The Mississippi River has always, throughout its history, been a meandering stream, and even during its known geological history it has been a meandering stream, making its meanders in a progressive movement downstream. The operation is as follows: The river cuts into its banks, picks up the material, holds it in suspension and carries it downstream until a wider place in the river is found where the force of the current is not so rapid, and deposits its suspended load, creating a sand bar which restricts its flow, causing it to again attack the bank and to then pick up a new load of material, of sand, to start a new cycle, and so on. Prior to our revetment that has always been done.

Since the river was shortened by the cut-offs, by 162 miles, the river has tried to regain its former length. We cannot afford to let the river be lengthened because the levee grade depends upon the flow line, and the flow line, of course, is dependent upon the rapidity of the river. The revetment is to keep the river from going back to its original course.

Mr. KERR. Where were the cut-offs made?

General FERINGA. The cut-offs have been made at several different points: there are some 16 different cut-offs, which are simply short cuts across a bend of the river. The total distance of the river was shortened 162 miles.

Mr. RABAUT. What about the revetment work?

General FERINGA. We have had great success in the application of the revetments. The type we are using most is the articulated concrete mat placed under water, and the upper bank is protected by asphalt or riprap.

There are a total of 450.5 miles in the estimated revetment program. Of that there are 246.5 miles completed, and in the estimate before you we plan to do another 26 miles.

Mr. RABAUT. And the estimated cost per mile is how much?

General FERINGA. It is roughly $900,000 per running mile, linear mile. The estimated cost has not increased materially during the past year because we have used every economy in our operation through labor-saving devices.

Mr. RABAUT. What methods do you employ for letting contracts for revetment work?

CONTRACT WORK

General FERINGA. On the articulated concrete mats all the work is done by contract—the work is advertised usually in the fall of the year and various contractors bid on the work, and we accept the lowest bidder, making sure that his bid is reasonable by making our own careful Government estimates.

The actual placing of the concrete mats in the river is done by three plants or placing machines which are owned by the Federal Government, because they are the only such machines in the world, and, because of the investment involved, no one else could afford to own them.

However we have contracted out one of these machines, have made it available to contractors, to use so we can do some of the placing by contract.

On the upper bank we use asphalt paving, or riprap. That upper bank work is done by contract also, and the work is given to the lowest bidder after advertisements. Again, careful estimates are prepared by us to be sure that the low bid is reasonable.

What we call the minor repairs we do ourselves, because it is practically impossible to advertise that work, because we do not know in advance where it is going to take place.

Mr. RABAUT. You refer to the fact that you have a contract with one of the contractors to operate the placing machine.

General FERINGA. Yes, sir. As I say, we have three of them.

Mr. RABAUT. The Federal Government owns three.

General FERINGA. Yes, sir.

Mr. RABAUT. Who operates the other two?

General FERINGA. They are run by us.

Mr. RABAUT. And that helps you to be able to know what the cost is, because there is no other basis of comparison.

General FERINGA. That is right, sir.

Mr. RABAUT. What about your operation; do you think it would be well to let them out on contract?

General FERINGA. I would say we definitely should keep on operating the two, and I think it is good economy. We cannot foresee with the necessary degree of accuracy, needed for contract advertising, where most of the revetment will be needed. We can for the one machine—not for the three.

Mr. RABAUT. The committee, during its visit, saw the machines in operation and is better able to understand how they are used.

General FERINGA. It would be almost impossible to describe them, unless you had seen them in operation.

Mr. RABAUT. How do you determine the particular stretch of river where it is economically feasible to do the work?

General FERINGA. We have an over-all plan. We have charted the river the way we think it should be to stay in its right course. We allow the banks to cave until they are the right curvature and then we place revetment so it will remain at the adjusted curvature from the standpoint of proper hydraulic analysis. That is one reason.

The other is a question of where the river itself may go, unless the bank is protected and if so its effect on the land; in other words, there may be a highway, a railroad or a town that we cannot afford to leave unprotected.

Those are the two main criteria involved: one, the hydraulic conditions under the right curvature; and second—and the immediate one—where we have to protect a community, an installation—a railroad or a highway.

Mr. RABAUT. Do you make continuous inspections of this work?

General FERINGA. Yes, sir; it is continuously under observation.

Mr. FORD. Can you give me the number of miles you anticipate to construct with the funds requested?

General FERINGA. Twenty-six in 1953.

Mr. FORD. Can you give us a list, as you did last year, on the areas in which you will work?

General FERINGA. I have them right here—and I would like to bring out that these are estimates. I cannot give you any assurance that the work will be placed as listed because the river can change, especially during the high-water season and there may be major changes.

Mr. FORD. This is what you contemplate doing at the present time?

General FERINGA. I hereby submit our contemplated program.

(The information follows:)

Bank stabilization breakdown, fiscal year 1953

Island No. 9, Kentucky	$450,000
New Madrid, Mo., extension	150,000
Linda, Mo., extension	750,000
Merriwether Bend, Tenn., extension	300,000
Linwood Bend, Tenn	450,000
Huffman-Hickman, Ark	900,000
Ensley, Tenn	1,860,000
Cow Island, Ark., extension	310,000
Walnut Bend, Ark	1,240,000
Helena, Ark., extension	620,000
Oldtown, Ark., extension	155,000
Burkes Landing, Miss	775,000
Fair Landing, Ark., extension	465,000
Rescue Landing, Miss	1,550,000
Island No. 67, Mississippi	1,700,000
Henrico, Ark	775,000
Miller Bend, Miss., extension	320,000
Island No. 84, Mississippi	800,000
Cracraft, Ark	1,280,000
Goodrich, La., extension	640,000
Milliken Bend, La., extension	1,920,000
DeSoto Island, La	1,120,000
Barge Line Terminal, Vicksburg, Miss	320,000
Kempe Bend, La	640,000
Bougere Bend, La., extension	510,000
Morganza, La	1,050,000
Arbroth, La., extension	650,000
Algiers Point, La	300,000
Total	22,000,000

Those are the locations where, as I say, we estimate we will do the work. We did not have sufficient funds to carry that work on as we wanted to do it in the previous year, and when I said "extension" it means we are extending previous work further up or down stream.

COST PER MILE

Mr. FORD. Earlier this morning, General, you intimated the cost per mile of the revetment was how much?

General FERINGA. About $900,000.

Mr. FORD. You indicated there was no increase?

General FERINGA. Yes. Generally speaking that is correct, Mr. Ford.

Mr. FORD. It is contemplated that with the money requested for the next fiscal year 23 miles' work will be done at an expenditure of $22 million?

General FERINGA. Twenty-six miles.

Mr. FORD. Twenty-six miles.

General FERINGA. Yes, sir.

Mr. FORD. The cost is to run $22 million?

General FERINGA. Twenty-two million dollars. Twenty-six miles is contemplated in the estimate at a cost of $22 million. I do not know whether that figures out exactly $900,000 per mile—it will be less than that.

Mr. FORD. Last year in the testimony—and I am quoting here from your testimony—

With the estimate of $18 million we plan 23 miles of revetment at 25 different locations.

There is some cost differential in there, is there not?

General FERINGA. What did I say?

Mr. FORD. Twenty-three miles at $18 million.

General FERINGA. That would be roughly $800,000—but as Mr. Rabaut has explained informally, there may be places in the river where it will only extend 500 feet, and some other places it may be 700 feet or 600 feet into the river. So, as I say, the 26 miles in 1953 will run close to $900,000.

Mr. FORD. There is some slight increase?

General FERINGA. When I say the average cost per mile at $900,000, it is close; there is no increased cost per unit, because of the savings we have made through the use of labor-saving devices. But this estimate is not based upon 26 miles at $900,000; we look at the location and will determine that the location will cost so much, but the over-all average will be close to $900,000 per mile.

I would like to repeat, Mr. Chairman, that it is an estimate based on each location study and the estimated cost to protect that location, and usually it comes out very close to $900,000 per mile.

MAPPING

Mr. RABAUT. Will you tell us about the estimate for mapping, General Feringa?

General FERINGA. The next item is on mapping. The total authorized Federal cost of the project is $4,863,000; there have been

allotments to date of $3,266,000, and the tentative allocation before the committee is $225,000.

The over-all ceiling amount, in answer to Mr. Ford's question, is $395,000.

The total of mapping that we are required to do in the alluvial valley covers approximately 63,000 square miles for a total of 253 separate sheets, and of those sheets, 244 sheets covering approximately 58,500 miles will have been completed at the end of this fiscal year. Two hundred and twenty-five thousand dollars of this estimate will go to complete five new sheets and revise nine quadrangles.

Then there will remain for future years four new sheets and 65 more to be revised. It is important that we have maps in carrying out our river functions. Also there is a tremendous demand for these maps, mainly from the navigation interests.

Mr. RABAUT. Do those using the maps pay for them?

General FERINGA. They pay for the cost of printing of the maps, but not the work on them.

Mr. RABAUT. Not for the studies?

General FERINGA. We need the maps ourselves.

Mr. RABAUT. Is the work that you do on the river itself, that is put into the new maps?

General FERINGA. Yes; there is constant change going on.

Mr. FORD. What was the actual allocation last year for mapping?

General FERINGA. Two hundred and fifty thousand dollars; this is a decrease of $25,000.

MEMPHIS HARBOR

Mr. RABAUT. Will you take up the estimate for the Memphis Harbor, General?

General FERINGA. The total estimated cost, Federal, for Memphis Harbor, is $21,600,000. There has been allocated to date, $7,495,000, and the estimates before you calls for $1,250,000.

The overceiling amount is $3,500,000.

The work contemplated in the $1,250,000 is to continue two continuing contracts.

Memphis Harbor, as the name implies, is located at Memphis. It is built by the closure of the Tennessee Chute, Tennessee Chute being formerly the water area which separated President Island from the city of Memphis. It is roughly halfway between New Orleans—well, two-thirds the way between New Orleans and Cairo. The minimum channel will be 12 feet in depth and 300 feet wide.

TONNAGE ON RIVER

I would like to again, give the committee the river tonnage. The tonnage is growing. The total tonnage was, in round figures, 67 million tons for 1950.

The project, we hope, will be completed in 1956.

ANTIPOLLUTION MEASURES

There will be a sewer extension which will be 27,000 feet long. There will be a levee on the left bank of the Tennessee Chute and the Mississippi River about 11 miles long.

Mr. RABAUT. How long did you say the sewer will be?

General FERINGA. It will be 27,000 feet long—that is, roughly 5 miles long.

Mr. RABAUT. There was one thing I noticed when we made our visit to this project, and that was the bottleneck of stagnation, so to speak, where this dam crosses the river.

General FERINGA. Yes, sir.

Mr. RABAUT. I wonder why there could not be some sort of passageway through that?

General FERINGA. We looked into that and found it would be very much more costly, and also insecure.

Mr. RABAUT. You will have a lot of stagnant water there.

General FERINGA. The stagnation will not affect this so much, inasmuch as the sewage will be brought down below this point [pointing] into the main river. The sewage has to be taken down into the Mississippi River.

When the project was under study, the district engineer went into that same question, studying the possibility of having an opening in the dam to allow for some flow to come through from the Mississippi River. It was found to be extremely costly and some doubt existed as to the ability to hold such an opening. It would be like the full force of the stream to be directed against the main levee and to make an opening in the levee would be dangerous.

The total of 960 acres of industrial fill will be required and at the end of this fiscal year 350 of those acres will be up to grade. At this time the dam, pile dikes, and 50 acres of fill are completed and the revetment down river will be 75 percent complete.

The $1,250,000 which is in the estimates will be used as follows:

Six hundred and sixty-five dollars for continuing the continuing contract for the sewer, and $585,000 to continue a continuing contract for the fill.

The entire job will be brought to 40 percent completion.

The work was started on May 28, 1948.

LOCAL REQUIREMENTS

I think it important to realize that local interests must put in more dollars than the Federal Government before the project is completed. Their estimated cost will amount to $28,654,000. To date they have provided the land; they have appointed a port director; they have placed or are placing top soil on the approach, which, as you recall, is very sandy.

They have plans for highways and railroads, which they are completing, and just before I left I got in touch with the district engineer and learned that the plan of the local interest is to complete construction of that highway and railroad, starting work this coming spring and summer. They have opened bids on the intercepter sewer. You see for the sewer it is a cooperative feature, and our part of the work picks up the sewage generally at the point about where I have indicated; the city has to collect the sewage from these various locations and bids have been opened by them and referred to the city commissioner for approval.

NEW LAND

Mr. RABAUT. How much land is really going to be created?

General FERINGA. 960 acres of industrial fill.

Mr. KERR. Is that an island?

General FERINGA. That was an island, before the connection by the dam, it was completely an island. Now you could call it a peninsula, because they have a dam connecting the island with the city. It is called Presidents Island, and further up is Vice Presidents Island.

Mr. RABAUT. Will you experience any danger from the water at the cut-off, before it flows around the island?

General FERINGA. No, sir. The water will flow down the river around this island [indicating].

Mr. RABAUT. This is going to result in filling up that area?

General FERINGA. It will not result in much maintenance; no. We have practically the same thing at Lake Ferguson, Greenville, Miss., which is operating very satisfactorily. We have practically the same thing at Vicksburg Harbor, where the Yazoo Canal comes in. We do very little maintenance. I imagine maintenance will cost around $75,000 a year.

BENEFIT FROM PROJECT

Mr. RABAUT. Who stands to benefit from this project?

General FERINGA. I would say the United States, the whole of the United States.

Mr. RABAUT. How?

General FERINGA. In that it will make a harbor for shipping moving up and down the river, which is increasing measurably. Right now the Government has to haul out a towboat (although it is paid for) if they have something wrong with a propeller, because there is no industry in Memphis that can do that work.

The savings in cost, through advantages of water transportation are lost, frequently are lost in part, due to the cost of handling and rehandling freight. This terminal would make it possible to have water transportation combined with railway and highway, railroads and trucks.

EXTENT OF LOCAL INTEREST PARTICIPATION

Mr. RABAUT. I believe you mentioned the extent to which local interest is participating in this project.

General FERINGA. Yes; they are cooperating to the extent of $28,654,000, and I can give you a breakdown of the items, if you wish. It was put in the record last year.

Those features consist of land, grading, paving, drainage, railroads, highways, and other land transportation, utilities, gas, water lines, sewers, public service, police and fire protection, dock facilities, terminal storage, and so forth.

Mr. RABAUT. Will you fill in the amount they are going to contribute.

General FERINGA. For each of the items?

Mr. RABAUT. For each of the items, yes.

General FERINGA. Yes, sir.

(The information requested follows:)

In addition to $410,000 required for rights-of-way, easements, etc., which are approximately 50 percent complete, the Memphis and Shelby County Port Commis

sion will expend the following funds for construction of improvements, utilities, etc.

Lands	$840,000
(Negotiations will be closed, when it is evident lands are needed.)	
Grading, paving, drainage, etc	2,775,000
Railroads, highways, and other land-transportation facilities	5,814,000
(Contract for placing top soil on approach complete; plans for roadway ready for advertising; contracts for placing railroad tracks have been agreed upon.)	
Utilities—gas, water, lights, sewers, etc	6,925,000
Public service—police and fire	200,000
Dock facilities—ways, docks, terminal, storage, etc	12,100,000
(Agreement reached with one company for usage; 16 other industries have made contact and shown interests.)	
Total	28,654,000

SANITARY SEWER

Mr. RABAUT. I notice in your estimate that the cost of continuing the construction of the sanitary sewer is included. Will you explain this item and tell ns how it is a Federal cost?

General FERINGA. It is a part of the authorized project. The project was authorized by the Flood Control Act of July 24, 1946, and was spelled out in the project and is now in the legislation, a part that would be undertaken by the Federal Government.

The sewer was part of that Federal cost. I think Mr. Ford asked me a similar question on that last year.

Generally, in speaking of flood-control projects, the Federal Government takes care of the sewage, after it has been collected to a central location by the local interests involved. That is, generally, storm and sanitary sewage is taken through or over the levee, but the local community must collect it to a central point or points.

Now, in this case the city of Memphis collects the sewage at a central point at its cost and the Federal Government takes over from that central point to the Mississippi River.

I imagine, although I was not in on the preparation of the report or its recommendation, I imagine also that an effort was made that less than half of the cost be carried by the Federal Government, and the major costs by local interests.

Mr. RABAUT. What is the relationship between this project and the Memphis, Wolf River, and the Nonconnah Creek flood-control project?

General FERINGA. There is no relationship between those two projects. The Memphis, Wolf River, and Nonconnah Creek flood-control project is a flood-control general project authorized by the Flood Control Act of 1937. The Nonconnah Creek portion has been completed for some years. The western part of the Wolf River work is now under construction and there are items or funds in the flood control, general part of the bill, for that project, which I imagine you will hear during the latter part of this week. It is a project which is actively under way.

Mr. FORD. Returning to the question of the sanitary sewer: When this subcommittee, or a part of it, was on the inspection trip, we stopped in Memphis and talked to a number of people in Memphis who were very vitally interested in this project.

General FERINGA. Yes, sir.

Mr. FORD. Mr. Davis, Mr. Rabaut, and myself inquired about the sanitary sewer. During the course of the conversation with a number of interested citizens we gathered this information: That at the time the Memphis Habor project was recommended by the officials of the Mississippi River Commission, I believe General Crawford——

General FERINGA (interposing). General Tyler was the president at the time the report was under preparation, I believe.

Mr. FORD. This is the gist of the conversation that some of the members of the subcommittee had with General Crawford, whom I understand represents the Memphis Harbor.

General FERINGA. Pardon me, sir.

Mr. FORD. He related that the original report excluded Federal participation in the construction cost of the sanitary sewer and that report was forwarded to the Office of the Chief.

The conversations further brought out the fact that when the report came to the Washington office for action by higher authority, that the higher authority decided that the Federal Government should pay the cost of the sanitary sewer. In other words, it reversed the decision of the Mississippi River Commission. Is that frequently done, General Feringa?

General FERINGA. In the first place, I do not know that it was done. I did not have any information on that point until the information you just gave; it is completely new to me. It certainly would not be done frequently. The division engineer's report or the commission's report is seldom revised on any large important, significant instance. Certainly the report is that of the Chief of Engineers and it is entirely within the right or jurisdiction of the chief to change a report as he sees fit. I cannot relate what action was taken, because I do not know, other than what you have told me.

Mr. FORD. Would you file for the record, General, the statement indicating whether or not the sanitary sewer was originally included in the report?

General FERINGA. In the commission's report?

Mr. FORD. The report to the higher office in Washington.

General FERINGA. That can be looked up, and if we find something we will supply the answer to the question.

Mr. FORD. In other words, give us the advantage of the best ability you can put on it.

General FERINGA. Yes, sir. I will refer the question to my associates who are here, as I will be back in Vicksburg. What you want to know is an answer to the question, "Yes" or "No", Was the sanitary sewer included in the commission's report, making the recommendation to the Chief of Engineers?

Mr. FORD. In reference in the Memphis Harbor.

General FERINGA. Yes. We will answer that "Yes" or "No."

Mr. FORD. And give us any related information.

General FERINGA. And the reason therefor.

Mr. FORD. Yes.

(The information requested follows:)

The Memphis Harbor work was authorized and added to the comprehensive project for the lower Mississippi River by subparagraph (*n*) under the title "Lower Mississippi River" of section 10 of the Flood Control Act approved July 24, 1946, "substantially in accordance with the report of the Chief of Engineers, dated April 12, 1946" (S. Doc. No. 51, 80th Cong., 1st sess). This document contains the report of the Chief of Engineers and the report of the Missis-

sippi River Commission in which the Chief of Engineers concurs without change. The report of the Mississippi River Commission recommends the plan of improvement outlined in paragraph 28 of its report which appears on page 8 of the document and paragraph 28 includes as one of the principal features of the plan the following:

"E. Extension of the existing sanitary sewer from its outfall near Nonconnah Creek to the Mississippi River at the lower end of Tennessee Chute."

This is the sewer recommended by the Mississippi River Commission and concurred in by the Chief of Engineers, that is now under construction.

FEDERAL COST OF SANITARY SEWER

Mr. FORD. What is the total estimated cost to the Federal Government for the construction of this sanitary sewer?

General FERINGA. The total estimated cost of the sewer, that is, the entire Federal cost is $1,433,000.

Prior to 1953, that is, during this fiscal year, $318,000 will have been spent.

In the fiscal year 1953 as included in this estimate, $665,000, leaving for 1954 or afterward, $450,000.

Mr. FORD. In other words, at present the city of Memphis is not paying any of the cost for the construction of the sanitary sewer?

General FERINGA. Here is what they are to do: They are to pay for the cost of collecting the sewage to this central location [indicating], and as I stated, they have opened bids for the interceptor sewers, to be constructed by the city, and those bids have been referred to the city commission for approval. In other words, if the interceptor sewer was built all the way to the head of this project, the cost would be greater than the Federal costs that I have given to you. But the city takes care of the sewage, the various locations; it collects it and brings it to the head of our sewer several miles downstream, so that the city pays for the interceptor sewer which is a considerable distance from there [indicating] to where the Federal Government takes over. So, in effect, the city does pay toward the cost of the sewer, but not toward the cost of the sewer which the project document assigns to us.

Mr. FORD. How much has the city of Memphis contributed out of this estimated contribution of $28,654,600?

General FERINGA. They have to date contributed a comparatively small amount of money, but that is probably due to the fact we have only 50 acres of industrial fill completed. They have paid for the lands which are estimated to cost $840,000.

They have appointed a port director; they are placing the topsoil on the approaches which I estimate will total in the neighborhood of $100,000. They are making plans for the highway and railroads, and expect to construct those this coming calendar year. They have opened bids for the interceptor sewer. I suppose by the end of this year they will have spent in the neighborhood of $500,000, plus land costs.

Mr. FORD. I think it would be helpful for the record and for the use of this committee, if you will furnish a statement by years showing the amount of funds expended by the city of Memphis on their part of this project.

General FERINGA. We will be glad to do so.

Mr. FORD. They have obligated themselves to the extent of $28,854,600, and the Federal Government has obligated itself to the extent of

some $21,600,000, but the Federal Government is going ahead with its expenditures, and there ought to be some indication in the record as to what the city of Memphis is doing.

General FERINGA. We will be glad to supply that.

I would like to point out again, Mr. Chairman, that to date they have not had much opportunity, because the project is just getting to the point where they are going to have to start expending funds. To date they have shown a complete willingness and ability to abide by their agreement; they have provided the land; they have appointed a port director; opened bids for interceptor sewers; they are providing for soil stabilization and plans for the railroad and highway. I have nothing in my mind, and I would like to so relate to the committee, that would indicate to me they are not going ahead full blast as soon as they can.

(The information requested above is as follows:)

Memphis Harbor project expenditures by local interests

[These figures were obtained from the Memphis-Shelby County Port Commission on January 29, 1952]

Fiscal year	Rights-of-way	Utilities	Planning and development	Totals
1947	0	0	$11,281.88	$11,281.88
1948	$17,956.00	0	7,500.00	25,456.00
1949	345.00	0	5,992.84	6,337.84
1950	95,009.75	0	3,275.85	98,285.60
1951	4,000.00	0	5,890.75	9,890.75
1952 (to date)	8,118.12	$7,964.04	5,991.40	22,073.56
1952 (estimated balance)	49,000.00	450,000.00	8,000.00	507,000.00
Total	174,428.87	457,964.04	47,932.72	680,325.63

MORGANZA CONTROL STRUCTURE.

Mr. RABAUT. Will you give us a statement on the Morganza control structure, General?

General FERINGA. The Morganza control structure has an estimated Federal cost of $20,680,000, of which there has been allotted to date, $15,795,000. The funds requested in the estimate before you call for $4,025,000, leaving $860,000 for future years.

And I am proud to say once again that we will finish the project within the estimate, and it is my hope that the $860,000 remaining for future years will not be needed. We will finish the project for less than we have heretofore estimated. I am proud of that because it is a mighty hard thing to do, and has been made possible because of the economies of our operation.

Mr. KERR. Are you asking for a sufficient amount of money this year to complete this project?

General FERINGA. We will have enough money in the estimates to complete the project, and it is less than the original estimated cost.

Mr. KERR. How much money are you asking?

General FERINGA. We are asking for $4,025,000, and we expect to complete the project for $4,025,000.

Mr. RABAUT. You expect to have it completed this year?

General FERINGA. We will have it operative by January of 1953. We may not have all of the trees cut; and we may not have all of the highway completed, but we will have enough of the work completed so we can operate it for the 1953 flood season.

Mr. RABAUT. Does this amount of money, $4,025,000 take into consideration moving the railroads?

General FERINGA. Yes, sir.

Mr. RABAUT. And highways?

General FERINGA. Yes, sir.

EXPENDITURES TO DATE

Mr. RABAUT. How much money has been expended on this project to date?

General FERINGA. We have had $15,795,000.

Mr. KERR. And this $4,025,000 will complete the project?

General FERINGA. It will complete it.

HIGHWAY RELOCATION

Mr. RABAUT. Will you please explain to the committee the relocation of Highway 190, including the total cost of the relocation, the amount contributed by local interests, the type of roads actually replaced, and type of roads you have actually constructed.

General FERINGA. Highway 190 is not on the Morganza control structure, that highway is a two-lane highway. We are replacing the highway in kind, and there will be no cost to the State, because we are merely replacing an existing highway, to the same general conditions.

For the railroad, in this Morganza control structure, there will be the same type of railroad, except with heavier rails, and the railroad will have to pay for the heavier rails, because we only replace in kind.

Highway 190 is across the Morganza floodway at Krotz Springs, as indicated on the map, and it was constructed about 1941 or 1942. That is a four-lane highway. It was a two-lane highway but the State at the time had plans, evidenced by culverts, embankments, and rights-of-way, for a four-lane highway. The United States replaces in kind. In other words, if the State had had a four-lane highway, we would have replaced it with a four-lane highway. However, the State at the time had a two-lane highway, but they had plans for the construction of a four-lane highway and had constructed culverts and had cleared the rights-of-way in evidence of the fact that they were going to build a four-lane highway, and our district engineer at that time asked them to stop and instead of building the four-lane highway to contribute the cost thereof to our structure, which was being built by the Federal Government.

It is a litte hard to make clear. In other words, if the State had a four-lane highway, we would have replaced a four-lane highway.

Mr. RABAUT. Yes.

General FERINGA. If the State had, instead of stopping the construction, finished the four-lane highway, we would have had to pay for the full cost of constructing the four-lane highway. Instead, the district engineer asked them to stop their construction for widening to four lanes (and there was evidence of intention to construct, as they had constructed culverts and cleared the ground), and they contributed that cost to the four-lane highway which was built by the Federal Government, and therefore saved that additional cost to the Government.

Mr. RABAULT. Do you have the total cost of that?

General FERINGA. We can put that information in the record. I do not have it here.

Mr. RABAUT. The amount contributed by local interests.

General FERINGA. I do not have it here, but we can get it readily.

Mr. RABAUT. Furnish the relative expenses of the Federal Government and local interests.

General FERINGA. We will be glad to do that. I am glad you asked the question, because we always replace in kind, and any extra cost is paid for by the interest involved.

(The information requested follows:)

United States Highway No. 190 across the Morganza floodway was authorized by section 7 of the Flood Control Act approved June 15, 1936. Section 7 of this act provided as follows:

"That the United States shall construct, at its own cost one railroad and one highway crossing over the Eudora floodway and not to exceed three railway and two highway crossings over the Morganza floodway, and not to exceed one railway crossing (together with suitable physical connections therewith) and one highway crossing over the floodway west of the Atchafalaya River provided for in the modified project: *Provided*, That equitable agreements can be made with the railroad and highway authorities concerned and that the appropriate railroad or highway agencies agree to accept and maintain and operate these crossings without cost to the United States: *Provided further*, That the railroads crossing the Morganza and West Atchafalaya floodways agree in consideration for the crossings constructed to waive all claims against the Government for any damages that may occur by reason of overflows in the Morganza and West Atchafalaya floodway."

Prior to construction of the high-level crossing, Highway No. 190 had been prepared for four lanes of concrete surfacing. The embankment 3 to 5 feet high and 50 feet wide, and two lanes of concrete surfacing had been completed. The bridges, reinforced concrete girder type, and culverts, reinforced concrete box type, had been completed to provide for four lanes of pavement. The only remaining work to complete highway for four-lane traffic was the placing of two additional lanes of concrete surfacing. The total cost of the crossing was $4,893,700 of which the Louisiana Highway Department contributed $221,700, the cost of constructing the two additional lanes of pavement. The cost to the United States was $4,672,200.

FORMULA USED

Mr. RABAUT. What formula did you use in determining the cost to the Federal Government, and what was the basis for the formula?

General FERINGA. The general formula follows the criteria of replacing in kind. In other words, if there is a betterment to the railroad or to the local interest, they have to pay for the betterment.

Mr. RABAUT. Is any allowance made for the deterrioration of the old highway in computing the States' share in the cost of the new one?

General FERINGA. No; there is not. In the case of a floodway, like the floodway in Louisiana, it is there for the convenience and improvement and development of the United States.

The highway is completely satisfactory or the railroad is completely satisfactory to the State or to the railroad, and we replace in kind to make is equally satisfactory to the local interest or to the railroad. The State or the railroad is not interested in having the change, because the cost of maintenance of the structure may be more to them, and probably will be more to them than the existing railroad or the highway already on the ground.

Mr. RABAUT. To an extent, but not entirely, because they are going to be beneficiaries of the relief from the flood.

General FERINGA. No, sir.

Mr. RABAUT. They are beneficiaries.

General FERINGA. In the case of the State of Louisiana, in getting the water down the Atchafalaya floodway, the people did not have it before, and the Federal Government takes that water and brings it in there.

Mr. RABAUT. That is true as far as this part of Louisiana is concerned, but it is not true in this over-all picture, because there is a benefit to the rest of the State and to the Mississippi Valley and they all operate in that area; the railroads operate in the valley and there are other interests benefited by this highway and they are interested all operate in that area; the railroads operate in the valley and there in the Mississippi flood-control picture in all their activities. They all live with the Mississippi as you say.

General FERINGA. Yes, sir.

Mr. RABAUT. In a way what you say is true, but it is even more true, I think, that there should be some amortization.

General FERINGA. You will find that the people in the Atchafalaya Valley are not at all keen to have one-half of the Mississippi River thrown down the Atchafalaya basin.

RELOCATIONS

Mr. RABAUT. Will you furnish the same information as to the relocations of other projects under this item?

General FERINGA. Yes; relocations in the Atchafalaya basin?

Mr. RABAUT. Yes.

(The information requested follows:)

The high-level crossings over the Atchafalaya and Morganza floodways were authorized by section 7 of the Flood Control Act approved June 15, 1936, provisions of which have been previously quoted in this testimony.

The relocation of Louisiana State Highway No. 30 and the Texas & Pacific Railroad (Port Allen Branch) over the Morganza control structure and adjacent embankment is a replacement in kind and no betterments are involved except that 115-pound rail are to be used instead of the present 90-pound rail. The heavier rail will be furnished by the railroad company. Estimated costs to the United States are as follows: Highway, $2,038,000; railroad, $1,366,000.

The New Orleans, Texas & Mexico railroad crossing over the Morganza floodway from Lottie to East Krotz Springs was a replacement in kind and no betterment was involved except that 90-pound rails were used on the trestle section instead of 85-pound rail. The heavier rails were furnished by the railroad company. Total cost to the United States was $3,295,900.

The New Orleans, Texas & Mexico Railroad, now under construction, over the West Atchafalaya floodway between Krotz Springs and Courtableau will be a replacement in kind, and no betterments are involved except that 90-pound rails will be used on the trestle section instead of 85-pound rails. The heavier rails will be furnished by the railroad company. The estimated cost to the United States is $7,067,000.

The Texas & Pacific Railroad crossing over the Morganza floodway between McKneely and Red Cross was only a replacement in kind and no betterments are involved except that 112-pound rails were used instead of 85-pound rails and the railroad company desired longer piles than required by the design. The railroad company furnished the heavier rail and contributed for the cost of the extra pile lengths, $28,500 which was the difference in cost. Cost to the United States was $6,892,500.

The United States Highway No. 190 crossing over the Morganza floodway has been previously discussed in this testimony.

The United States Highway No. 190 crossing over the West Atchafalaya floodway has not been started. This crossing will be a replacement in kind and the costs of any betterments involved will be borne by local interests.

OFF-MAIN-STEM WORK

Mr. RABAUT. Will you give us a statement, General, regarding major capital outlay covering off-main-stem work?

ST. FRANCIS BASIN PROJECT

General FERINGA. The first item is that of the St. Francis Basin. The St. Francis Basin project is a very important one. It is located in southeastern Missouri and northeastern Arkansas and consists of a reservoir, which is completed; 227 miles of levees, on both sides of the river from Wappapello to Poinsette-Cross County line, of which 136 miles will be completed. There are 10 additional miles in this estimate.

There are 76 miles along Little River that are completed; there are 40 miles on the Elk Chute drainage district, of which 18 miles are completed; channel improvements on the Tyronza River are completed; a siphon near Marked Tree, Ark., is complete.

Realinement of the St. Francis River Channel, plus auxiliary channels and levees extending from Poinsette-Cross County line to the mouth of the St. Francis—that is part of the project which I explained we had under the 1950 act; it is extremely important and worth while; but in answer to previous questions the Bureau of the Budget determines it would be a new start. Actually it is not physically new; it is a continuation, but it is an additional authorization. There is no money for the work below Poinsette-Cross County line set up within these estimates.

For the 1953 funds there are proposed 10 miles of levees on the left bank near Kennett. That is the same length of levee that we talked about last year, but we had difficulty in getting rights-of-way, and we did work on the opposite side; and for fiscal year 1953 we are going back to what we planned to do last year.

The overceiling amount for this project, in answer to Mr. Ford's question, was $3,409,000, which includes the within ceiling.

To my mind, this project, the old and new authorizations both, are vitally important to the total area protected. There are some 1,960,000 acres, plus small towns, railroads, and highways, benefited.

The funds, $500,000, carried in this estimate will bring the project to 38 percent completion.

Mr. FORD. General, do you have the right-of-way now to the area that was indicated?

General FERINGA. Yes, sir; that right-of-way now has been purchased, or will be purchased this spring.

Mr. FORD. And you could be going ahead with construction in that area with money that you were supposed to get in the budget this year?

General FERINGA. We will be going ahead with the 1953 funds.

LOWER ARKANSAS RIVER

Mr. RABAUT. Will you give us a statement on the lower Arkansas River?

General FERINGA. The Arkansas River: There are no funds in this project before you for the south bank, but for the north bank of the

Arkansas River the estimated total cost is $11,910,000; the allotments to date have been $2,670,000, and the estimate before you is for $500,000. And in answer to Mr. Ford's question, the overceiling estimate was $3,033,000, including the within ceiling.

It consists of 67 miles of levees from Plum Bayou, across from Pine Bluff, to Gillett, Ark. Besides levees there are some bank stabilization works.

By the end of this year 9 miles will be up to grade and section. The project will be 22 percent complete.

When the project is completed, 300,000 acres of valuable farm land, rice-growing and cotton-growing land, will be protected, plus some small towns and communities.

With the $500,000 herein, we will enlarge or complete 5.2 more miles of levee, as follows:

One hundred and ninety thousand dolllars to the Sweden levee for completion of continuing contract.

One hundred and seventy-five thousand dollars will go to the Swan Lake levee for completion of a continuing contract.

One hundred and thirty-five thousand dollars to complete the Mud Lake levee under a continuing contract.

All of the $500,000 herein requested is to complete continuing contracts now underway.

Mr. FORD. In other words, this $500,000 is the same as you got last year and will be used for the same purpose?

General FERINGA. It is in addition to the amount of $500,000 we got last year, but will be used on the three jobs.

Mr. FORD. It is the same amount of money.

General FERINGA. The same amount of money.

Mr. FORD. The same you requested and received last year?

General FERINGA. The same amount we received, but not the same amount we requested.

Mr. FORD. Are these levee boards having any difficulty getting rights-of-way in these areas?

General FERINGA. Not in that area. In the St. Francis they are having a lot of difficulty. In this area they are not.

YAZOO RIVER BASIN

Mr. RABAUT. Will you take up the Yazoo River Basin, General, and give us a statement on that?

General FERINGA. Here is another project of which I am very proud. The only item before you is the Grenada Reservoir. Last year we talked about Enid and Grenada, and I am proud to say that we have finished Enid within the estimate—as a matter of fact, we did it for less than the estimate, and we will not be coming back for additional money for Enid.

GRENADA RESERVOIR

For Grenada Reservoir, the total estimated Federal cost was $34,693,000. There has been allotted to date, $24,408,833.

The estimate before you calls for $6 million. The amount that we had in the over-ceiling request was $7,182,600. It is going forward as fast as we can expect.

The Grenada Reservoir is the No. 4 reservoir in the Yazoo and the No. 5 reservoir is the alluvial valley. It is the last one and is not completed. We expect that it will be completed in 1953, that is, it will be completed 1 year from next fall.

This reservoir has a capacity of 1,251,700 acre-feet. The project lies within the State of Mississippi on the Yalobusha River, about 3 miles northwest of Grenada. As of the 30th of June 1952 the embankment section, exclusive of outlet works, will be completed. Outlet works will be 31 percent complete.

For 1953, the $6 million will be applied as follows: $2,314,000 to continue continuing contract on the outlet works; $921,000 for continuing of relocation of Highway No. 8; $437,000 for completion of the Grays Port and Gums Road crossings; $625,000 to complete the Mississippi-Skuna Valley railroad; $160,000 to complete Skuna Valley Road; $850,000 for continuation of a continuing contract for outlets, and $693,000 for continuation of existing contract of the Yalobusha River channel improvement, which is below the reservoir and is to have sufficient capacity to operate the reservoir successfully.

That is the last of the five reservoirs, and I want to repeat again that I am proud of what has been accomplished.

Mr. RABAUT. What is the percentage of completion?

General FERINGA. The reservoir is 70 percent complete now, and it will be 88 percent complete when the $6 million herein requested is expended.

Mr. FORD. You do expect to complete the reservoir works with the money you anticipate getting in the next fiscal year?

General FERINGA. The fiscal year 1954. Yes, sir.

TENSAS RIVER BASIN

Mr. RABAUT. What about the Tensas Basin?

General FERINGA. The Boeuf and Tensas River Basin is located in southeast Arkansas and northeast Louisiana. The funds in the bill before you will be applied to the work in Louisiana, although actually they are of more importance to the State of Arkansas.

The work extends from the general vicinity of Pine Bluff, Ark., to the latitude of Natchez, Miss. We are concentrating on the LaFourche Boeuf waterway. All of it drains into the State of Arkansas, southeast part of Arkansas, southeast of Pine Bluff, and concentrates down in this area [indicating].

Mr. KERR. Have you ever done any work in that part of the State?

General FERINGA. Not yet, in the State of Arkansas. We have done considerable work in this part of the State of Louisiana.

Mr. KERR. The Congressmen from Arkansas are very much interested in that?

General FERINGA. Yes; Congressman Norrell is extremely interested in it. We are getting along right well on the work we are doing, although I would like to go faster. The work as of June 30, 1952, on the Tensas River will be completed.

The Big and Colewa Creek will be completed.

For the LaFourche, which is the part we are concentrating on now, 30 miles is complete, and from mile 30 to mile 56.8, to the confluence of bayou LaFourche and Boeuf River is under way, with a continuing contract.

The $1,714,000 in the estimate before the committee will be applied to the completion of the continuing contract to the confluence of that river.

I want to change my statement just a bit: It will be applied to two contracts, which will take up to mile 39, and $648,100 will be applied to the continuation of a continuing contract to the confluence at mile 56.8.

I would like, in answer to Mr. Ford's question, to say that the over-ceiling amount for this project was $5,981,000, which would have been enough to carry it to the Arkansas border. This work will bring it practically to within 45 miles of the Arkansas border and we estimate that about $4,500,000 extra will be needed to bring it to the Arkansas border.

EXPENDITURES IN 1951

Mr. FORD. What was spent in the fiscal year 1951 on this part of the project?

General FERINGA. In the present fiscal year?

Mr. FORD. In the fiscal year 1951.

General FERINGA. I can give it to you in round numbers—in the neighborhood of $1,000,000. Last year we had $1,720,000.

Mr. FORD. And this year, for fiscal year 1953, you are requesting $1,714,000?

General FERINGA. That is right. It was $1,720,000 for 1952, and 1951 it will be in the neighborhood of $1,000,000, but I will furnish the correct figure for the record.

Mr. FORD. As I recall the testimony last year—on page 346 of the hearings, it was indicated you got $675,000 for this purpose.

General FERINGA. That undoubtedly would be correct. May that answer be——

Mr. FORD. $670,000?

General FERINGA. $675,000.

Mr. FORD. And at the end of 1952 it will be 26 percent completed?

General FERINGA. At the end of 1952; yes, sir.

Mr. FORD. And 1953 money will bring it to what?

General FERINGA. Thirty-four percent. It is a big step in the right direction, but we would like to move much faster.

RED RIVER BACKWATER LEVEE

Mr. RABAUT. Will you take up the next item, "Red River backwater levee."

General FERINGA. The total estimated Federal cost is $8,653,000; there have been allotments to date of $4,739,000, and the estimate before you calls for $1,286,000. The above-ceiling estimate was a total of $3,128,000.

It is the area west of Natchez, generally bounded by the Mississippi River, the Red River, Black River, and Tensas River. A total of some 94 miles of levee will protect 237,000 acres of land, including some communities, small communities, plus the towns of Ferriday and Vidalia.

The project is across the river from Natchez. As of June 30 this year, from Black Hawk to Bayou Cocodrie will be completed, and the

Bayou Cocodrie structure is completed. The levee from Bayou Cocodrie to Calhoun Bend, approximately 25.8 miles will be completed to interim grade. That is 5.5 feet lower than project grade. The levee from Calhoun Bend to Cynthia Bayou, approximately 7.3 miles, and above Wilson Landing, approximately 10.6 miles, will be under construction; and above Wilson Landing, approximately 6.9 miles will have been completed. From Wilson Landing to opposite Jonesville, approximately 6.9 miles will be completed. The Smithland Landing cutoff will be completed.

The project will be 55 percent complete.

Of the money before you in this request, $488,000 will be applied to the completion of a continuing contract on the Cynthia Bayou to Wilson Landing.

$250,000 will be used to start the contract from Jonesville to Dumbarton, which is 18.8 miles; and $548,000 will be used to start a contract to bring to final grade the lower 25.8 miles from Bayou Cocodrie to Calhoun Bend.

With the money in the estimate before you they will finally have partial protection for the first time in their lives; they will not have complete protection, but they will have partial protection, and I am proud of that work.

Mr. FORD. That money brings it to what percentage of completion?

General FERINGA. It will bring it to 70 percent completion.

Mr. FORD. According to the testimony in the hearings last year, General, in fiscal year 1951, this particular part of the over-all project had an allocation of $562,000, and for fiscal 1952, $1,260,000 was allocated, and in this year you are requesting $1,286,000?

General FERINGA. $1,200,000 for 1952. As it turned out, there was a small cut in the appropriation.

ATCHAFALAYA RIVER BASIN

General FERINGA. The next item is for the Atchafalaya floodway, with a total estimated Federal cost—and this is a very important part of the work—of $129,120,000. There has been allotted to date $101,067,000, and the estimate before you calls for $4,200,000, whereas the overceiling estimate was $11,912,186.

It is located in the south central part of Louisiana. The basin roughly parallels the Mississippi River. It is about 110 miles long and about 45 miles wide, that is, the basin itself, not within the levees.

From the Old River to the Gulf, by way of the Atchafalaya is about one-third the distance it would be by way of water traveling down the Mississippi River, hence it is an attractive waterway as a part of the system.

The Atchafalaya waterway is absolutely essential to the operation of the Mississippi River project, because half of the floodwaters must go through the basin.

Mr. KERR. How much money has been spent on that project so far?

General FERINGA. There has been spent $101,067,000.

The project consists of guide levees, levee from Hamburg to Simmesport, the Atchafalaya River levees, Wax Lake outlet, locks at Bayou Sorrel and Bayou Boeuf to permit uninterrupted traffic on the intercoastal waterway and floodgates at Calumet.

The status as of June 30, 1952, is as follows:

Of the levees, a total of 448 miles of levees, 387 miles will be completed; of the remaining 61 miles, 49 miles are still deficient in grade; most of it will require a second lift. In other words, the material is so soft that you cannot build the levee to full grade in one step; you must place a second lift or sometimes a third lift.

Four and two-tenths miles will require shaping, that is we place more material than is needed the first time and subsequently bring it to grade; and seven and eight-tenths miles are still to be constructed at Avoca Island, at the lower part of the project. Structures: high-level railroad and highway crossings across the Morganza floodway are complete; Bayou Sorrel lock is complete; and the Wax Lake outlet is complete. The Bayou Boeuf lock is now underway, and will be completed with 1954 appropriations.

The entire project is now 78 percent completed, and the funds requested in the estimate before you will bring it to 82 percent completion.

Mr. FORD. General, this is the part of the area which the subcommittee traversed while we were on our inspection trip last fall?

General FERINGA. Yes, sir.

Mr. FORD. This is the visual evidence of what is being done.

General FERINGA. Yes, and I am very happy that you were able to see it.

Mr. FORD. At this point I would like to ask the question: Why was there not included funds for any work in the lower Red River basin in the fiscal year 1953?

General FERINGA. It was stricken out by the budget. As I remember the request, for the lower Red River, we had an item of $300,000. Now, the lower Red River levee is complete, but the revetment and piling which are in the project authorization and needed to protect the levee are not complete.

The $300,000 that we had presented to the Bureau of the Budget was for the construction of two series of revetments and dikes and the budget evidently felt that it could be postponed.

MAINTENANCE

That leaves maintenance and current expenses, Mr. Chairman, which carries a total request of $15,020,000. These are distributed on the main stem and off the main stem works.

The maintenace has been running about the same amount ever since I have been there, and I expect they will run at about the same figure until we get further along with the revetment work, and then there will be some decrease. The breakdown is as follows:

Flood control, Mississippi River and tributaries 21X3112

Item of work	Authorized cost	Estimated cost	Appropriation to June 30, 1952	Percent complete to June 30, 1952	1953 program	Estimated percent complete, June 30, 1953	Amount required to complete
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CONSTRUCTION							
Main stem work:							
Mississippi River levees	$271,000,000	$271,000,000	$202,306,015	75	$3,300,000	76	$65,393,985
Bank stabilization works	356,000,000	356,000,000	195,706,610	55	22,000,000	61	138,293,390
Dredging	103,290,167	103,290,167	86,682,095	84	0	84	16,608,072
Mapping	4,863,000	4,863,000	3,266,325	67	225,000	72	1,371,675
Memphis Harbor	21,600,000	21,600,000	7,495,000	35	1,250,000	40	12,855,000
Devils Swamp	2,500,000	2,500,000	0	0	0	0	2,500,000
Morganza structure	20,680,000	20,680,000	15,795,000	76	4,025,000	96	860,000
Completed items of work	23,203,728	23,203,728	23,203,728		0		0
Subtotal	803,136,895	803,136,895	534,454,773		30,800,000		237,882,122
Off main stem:							
St. Francis Basin	44,826,000	44,826,000	16,493,649	37	500,000	38	27,832,351
West Tennessee tributaries	7,700,000	7,700,000	0	0	0	0	7,700,000
Lower White River	13,110,000	13,110,000	7,990,138	61	0	61	5,119,862
Cache River Basin	10,000,000	10,000,000	0	0	0	0	10,000,000
L'Anguille River	2,000,000	2,000,000	0	0	0	0	2,000,000
Grand Prairie-Bayou Meto	6,000,000	6,000,000	0	0	0	0	6,000,000
Lower Arkansas River:							
North bank	11,910,000	11,910,000	2,670,261	22	500,000	27	8,739,739
South bank	17,340,000	17,340,000	12,822,584	74	0	74	4,517,416
Yazoo River Basin:							
Reservoirs	72,850,167	72,850,167	62,281,000	85	6,000,000	94	4,569,167
Local protection	101,149,833	101,149,833	9,772,681	10	0	10	91,377,152
Big Sunflower	7,500,000	7,500,000	443,000	6	0	6	7,057,000
Tensas River Basin:							
Boeuf and Tensas	20,781,000	20,781,000	5,421,000	26	1,714,000	34	13,646,000
Red River Backwater	29,000,000	29,000,000	4,739,313	[1] 55	1,286,000	[1] 70	22,974,687
Lower Red River	10,360,000	10,360,000	8,546,272	82	0	82	1,813,728
Atchafalaya River Basin:							
Levees and structures	124,830,000	124,830,000	97,653,133	78	4,200,000	82	22,976,867
Bayous Rapides, Boeuf and Cocodrie	4,290,000	4,290,000	3,413,814	80	0	80	876,186
Lake Pontchartrain	3,150,000	3,150,000	0	0	0	0	3,150,000
Amite River	50,000	50,000	0	0	0	0	50,000
Completed items of work	2,764,605	2,764,605	2,764,605		0		0
Subtotal	489,611,605	489,611,605	235,011,450		14,200,000		240,400,155
Grand total	[2] 1,292,748,500	1,292,748,500	769,466,223		45,000,000		478,282,277

[1] For Red River backwater levee only.
[2] Total cost of project within limit of authorization. Total cost of features are estimates.

Breakdown of maintenance funds, fiscal year 1953

Main stem work:		
Mississippi River levees	$2,750,000	
Bank stabilization works	5,500,000	
Dredging	4,000,000	
Surveys, gages, and observations	800,000	
Bonnet Carre spillway	125,000	
Subtotal		$13,175,000
Off main stem:		
St. Francis Basin	$225,000	
Lower White River	150,000	
Lower Arkansas River	200,000	
Yazoo River Basin	712,000	
Atchafalaya Basin floodway	315,000	
Lower Red River	50,000	
Subtotal		1,652,000
Salaries, Office, Chief of Engineers		193,000
Total maintenance		15,020,000

General FERINGA. I would like to bring out, Mr. Chairman, that the breakdown for maintenance is an estimate, and is nothing more than an educated guess based on the requirements of previous years because at any time the river starts flooding, I cannot tell where the maintenance need is going to be the heaviest.

Mr. FORD. When you have maintenance money, for example, which you do not use in any one year, can the unexpended funds be used for construction?

General FERINGA. Yes, sir; they can be; in such cases, as provided by law we have to charge it to construction and we have to add the total to construction so we cannot go over our authorization. Actually our maintenance has been running a little bit over $15 million instead of less than $15 million in the last 2 years, because we have had more water in 1950 and 1951, than for the previous years.

EMERGENCY FUNDS FOR FLOOD CONTROL ON TRIBUTARIES OF MISSISSIPPI RIVER

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate	$450,000	$500,000	$500,000
Prior year balance available	201,457	559,259	
Total available for obligation	651,457	1,059,259	500,000
Balance available in subsequent year	−559,259		
Obligations incurred	92,198	1,059,259	500,000

Obligations by activities

Emergency rescue, repair, or maintenance work:	
1951	$92,198
1952	1,059,259
1953	500,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Total number of permanent positions	17	65	32
Full-time equivalent of all other positions	8	32	16
Average number of all employees	24	91	46
Average salaries and grades:			
General schedule grades:			
Average salary	$4,953	$4,855	$4,845
Average grade	GS-8.6	GS-7.1	GS-7.1
Ungraded positions: Average salary	$3,080	$3,140	$3,150
01 Personal services:			
Permanent positions	$58,115	$234,101	$122,529
Part-time and temporary positions	14,250	55,000	28,000
Regular pay in excess of 52-week base		899	471
Payment above basic rates	8,243	30,000	14,600
Total personal services	80,608	320,000	165,600
02 Travel	2,662	8,200	5,300
03 Transportation of things	15	6,000	4,600
04 Communication services	489	10,000	5,000
05 Rents and utility services	5,613	100,000	55,000
07 Other contractual services	21	210,000	115,000
08 Supplies and materials	2,520	393,259	142,800
09 Equipment		10,000	7,000
15 Taxes and assessments	270	1,800	900
Obligations incurred	92,198	1,059,259	500,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$89,334	$28,000	$412,259
Obligations incurred during the year	92,198	1,059,259	500,000
	181,532	1,087,259	912,259
Deduct unliquidated obligations, end of year	28,000	412,259	412,259
Total expenditures	153,532	675,000	500,000
Expenditures are distributed as follows:			
Out of current authorizations	153,532	300,000	200,000
Out of prior authorizations		375,000	300,000

General FERINGA. Finally, Mr. Chairman, we have the flood control, emergency item, of $500,000, set out on page 434 of the justifications, which explains the estimate before the committee, and with your permission I will include that in the record.

FLOOD CONTROL ON TRIBUTARIES OF MISSISSIPPI RIVER, EMERGENCIES, FISCAL YEAR 1953

These funds were authorized originally by section 7 of the Food Control Act of May 15, 1928, Public Law 391, Seventieth Congress, and renewed in section 9 of the Flood Control Act of June 15, 1936, Public Law 678, Seventy-fourth Congress, and in Public Law 516, Eighty-first Congress, approved May 17, 1950. The 1928 act authorized $5,000,000 which has been exhausted and the 1936 and 1950 acts authorized $15,000,000 and $5,000,000, respectively, to replenish these funds "to be allocated by the Secretary of War on the recommendation of the Chief of Engineers in rescue work or in the repair and maintenance of any flood control work on any tributaries of the Mississippi River threatened or destroyed by flood heretofore or hereafter occurring." Of the $25,000,000 authorization a total of $14,650,300 has been appropriated. The budget recommendation for fiscal year 1953 is $500,000 which will leave an unappropriated balance of $9,849,700 under this authorization after fiscal year 1953. The emergency nature of the work to be performed with these funds makes it advisable

to have a substantial balance under this title at all times. In the past 10 years expenditures from this emergency fund have averaged about $700,000 a year and in extreme flood years the expenditures required may be as great as $2,000,000.

I would like to also insert in the record a table showing the appropriation and annual expenditures from 1941 through 1952.

Mr. RABAUT. Without objection, it will be made a part of the record.

(The table referred to follows:)

Appropriations and expenditures—emergency fund for flood control on tributaries o Mississippi River

Fiscal year	Appropriation	Expenditures	Fiscal year	Appropriation	Expenditures
1941	$800,000	$35,663	1947	$500,000	$392,823
1942	100	394,057	1948	500,000	628,788
1943	100	614,393	1949	500,000	752,842
1944	3,000,000	2,322,991	1950	500,000	462,716
1945	500,000	1,672,630	1951	450,000	153,532
1946	500,000	645,603	1952	500,000	[1] 49,533

[1] Includes expenditures only to Dec. 31, 1951.

General FERINGA. May I state, Mr. Chairman, that I appreciate highly the fact that you gentlemen came down and visited the project.

Mr. RABAUT. I am very glad that the committee made the trip, and I am especially glad that we had the benefit of the airplane trip over the project and that we had the benefit of the inspection of the matlaying program and your handling of the banks. We were especially helped by the explanations that were given to us as we went down and across the river, as to the operation of the current and its effect on the levees and banks.

When we are able to see a project such as this, we are benefited not only from hearing what is told us, but we have the additional advantage of the knowledge that comes from actual sight. I certainly am very glad the committee made the trip.

General FERINGA. May I say, Mr. Chairman, that the people in the alluvial valley—and I think I can speak for them, because I am one of those who live there—were greatly impressed by the visit of this committee, based upon their personal contact with the members, and the friendly contact of the committee with the people in the valley.

Mr. RABAUT. We are very sorry that Judge Kerr could not go along. I want to say that I do not think anybody has as clear an understanding of the Mississippi River as General Feringa. I think the people of the alluvial valley are very fortunate, as well as the Corps of Engineers, in having a man of such knowledge and understanding of the problems, in charge of the project. They have selected the right man for the right job and he is doing a good job, an excellent job, and what is more, if General Pick is wise, he will keep him there.

Mr. FORD. And may I add that I think Mr. Rabaut is speaking the views of the whole committee.

Mr. KERR. I hope the next time I will be able to make the trip with the committee.

Mr. RABAUT. I am sure it will be interesting to you.

General FERINGA. Thank you very much, gentlemen.

JANUARY 23, 1952.

FLOOD CONTROL, GENERAL

WITNESSES

BRIG. GEN. C. H. CHORPENING, ASSISTANT CHIEF FOR ENGINEERS FOR PUBLIC WORKS
COL. WRIGHT HIATT, DEPUTY CHIEF OF CIVIL WORKS FOR FLOOD CONTROL
LT. COL. E. C. PAULES, DEPUTY CHIEF, CIVIL WORKS FOR POWER
HARRY COHEN, CHIEF, FLOOD CONTROL SECTION
KENNETH J. BOUSQUET, CHIEF, PROJECT PROGRAMS BRANCH
JOSEPH R. BRENNAN, CHIEF, PROJECT DEVELOPMENT SECTION
G. L. BEARD, CHIEF, PLANNING AND DEVELOPMENT DIVISION
C. W. KINNEY, POLICY AND CONTINUITY BRANCH
STUART H. D. FREED, BUDGET ANALYST, OFFICE OF COMPTROLLER

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate	$358,960,250	$316,544,100	$300,795,000
Transferred to—			
"Flood control, general, emergencies," pursuant to Public Law 843	−1,000,000		
"Niagara redevelopment remedial works investigation Corps of Engineers," pursuant to Public Law 45	−450,000		
Adjusted appropriation or estimate	357,510,250	316,544,100	300,795,000
Proposed supplemental due to pay increases		480,000	
Prior year balance available	40,155,973	41,488,891	
Reimbursements from non-Federal sources	498,532	1,885,000	1,900,000
Reimbursements from other accounts	3,301,860	5,435,000	5,500,000
Total available for obligation	401,466,615	365,832,991	308,195,000
Balance available in subsequent year	−41,488,891		
Obligations incurred	359,977,724	365,832,991	308,195,000
Comparative transfer from—			
"Flood control, Trinity River, Texas"	89,537	7,874	
"Flood control, Sutton Reservoir, West Virginia"	133,302		
Comparative transfer to "Flood control, general, emergencies"	−124,391	−96,255	
Total obligations	360,076,172	365,744,610	308,195,000

NOTE.—Reimbursements from non-Federal sources are received from private individuals, commercial concerns, nonappropriated funds, and States and municipalities (33 U. S. C. 558, 559, 571, 701, and 701k).

Obligations by activities

Description	1951 actual	1952 estimate	1953 estimate
Direct obligations			
MAJOR CAPITAL OUTLAY			
1. Construction:			
(a) Local protection:			
(1) Red River levees and bank stabilization, Arkansas, Texas, and Louisiana	$444,155	$74,305	$634,000
(2) Los Angeles County drainage area, California (exclusive of Whittier Narrows Reservoir)	6,581,924	6,357,675	7,000,000
(3) Central and southern Florida	6,300,000	6,131,215	5,000,000
(4) Columbia drainage and levee district, Illinois	32,539	412,233	311,900
(5) East Cape Girardeau and Clear Creek drainage district, Illinois	250,756	519,244	244,000
(6) East St. Louis and vicinity, Illinois	277,667	1,600,154	1,500,000
(7) Grand Tower drainage and levee district, Illinois	252,806	861,438	800,000
(8) Prairie du Rocher and vicinity, Illinois	146,483	930,540	707,000
(9) Wood River drainage and levee district, Illinois	227,859	1,175,104	1,100,000
(10) New Albany, Ind	1,621,646	1,462,225	631,700
(11) Vincennes, Ind	31,118	322,381	600,000
(12) Hutchinson, Kans		1,927,479	1,824,000
(13) Kansas Cities, Mo., and Kans	6,203,870	5,155,260	3,750,000
(14) Missouri River agriculture levees, Kansas, Missouri, Iowa, and Nebraska	2,209,329	3,428,743	500,000
(15) Topeka, Kans		70,000	500,000
(16) Wichita and Valley Center, Kans	54,976	1,732,149	2,500,000
(17) Ashland, Ky		2,254,901	900,000
(18) Covington, Ky	815,996	1,474,689	900,000
(19) Louisville, Ky	3,388,498	4,812,102	4,500,000
(20) Maysville, Ky	94,849	1,157,964	1,000,000
(21) Natchitoches Parish, La		386,312	500,000
(22) Cumberland, Md., and Ridgeley, W. Va	1,148,424	1,037,697	1,300,000
(23) Red River of the North, Minn., N. Dak., and S. Dak	1,193,740	748,000	550,000
(24) Aitkin, Minn	16,733	655,000	600,000
(25) Cape Girardeau, Mo		100,000	1,000,000
(26) Perry County drainage and levee districts 1, 2, and 3, Missouri	312,812	1,053,220	1,000,000
(27) Willamette River bank protection, Oregon	565,284	490,563	400,000
(28) Williamsport, Pa	191,937	1,072,178	1,185,000
(29) Fall River Basin, S. Dak	403,156	412,000	427,000
(30) Memphis, Wolf River and Nonconnah Creek, Tenn	472,306	842,556	750,000
(31) Fort Worth floodway, Texas	538,400	811,600	750,000
(32) Snagging and clearing	603,593	1,521,611	800,000
(33) Emergency bank protection	322,770	664,914	400,000
(34) Section 212 projects	349,017	1,663,651	1,000,000
(35) All other	8,496,802	8,864,355	
(b) Flood control reservoirs (including multiple purposes other than power):			
(1) Cherry Valley Reservoir, Calif	483,336	3,417,361	2,514,100
(2) Folsom Reservoir, Calif	4,330,164	7,101,270	18,130,000
(3) Isabella Reservoir, Calif	2,855,144	4,650,000	4,500,000
(4) Pine Flat Reservoir, Calif	8,291,675	8,253,787	9,500,000
(5) San Antonio Reservoir, Calif	62,736	1,567,133	3,000,000
(6) Whittier Narrows Reservoir, Calif	6,500,000	4,660,000	7,000,000
(7) Mansfield Hollow Reservoir, Conn	2,689,784	3,113,280	540,600
(8) Lucky Peak Reservoir, Idaho	2,271,214	4,018,786	6,087,000
(9) Farm Creek Reservoirs, Ill	1,106,315	1,578,144	929,300
(10) Tuttle Creek Reservoir, Kans		500,000	15,500,000
(11) Jemez Canyon Reservoir, N. Mex	494,061	1,079,793	2,310,000
(12) Conemaugh River Reservoir, Pa	8,457,394	9,731,504	4,200,000
(13) East Branch Clarion River Reservoir, Pa	1,298,926	2,051,224	850,000
(14) Belton Reservoir, Tex	2,406,535	4,090,000	3,500,000
(15) Garza-Little Elm Reservoir, Tex	3,400,000	3,081,000	5,300,000
(16) Lavon Reservoir, Tex	4,136,000	1,536,000	462,000
(17) Texarkana Reservoir, Tex	2,755,603	4,273,184	6,000,000
(18) All other	33,552,595	19,448,496	

Obligations by activities—Continued

Description	1951 actual	1952 estimate	1953 estimate
Direct obligations—Continued			
MAJOR CAPITAL OUTLAY—continued			
1. Construction—Continued			
(c) Multiple-purpose reservoir projects which include power:			
(1) Blakely Mountain Reservoir, Ark	$3,657,954	$5,840,046	$6,600,000
(2) Bull Shoals Reservoir, Ark. and Mo	17,029,294	15,427,436	1,400,000
(3) Clark Hill Reservoir, Ga. and S. C	19,800,000	18,480,000	4,100,000
(4) Hartwell Reservoir, Ga. and S. C	118,482	224,118	4,000,000
(5) Albeni Falls Reservoir, Idaho	2,900,000	10,000,000	8,100,000
(6) Gavins Point Reservoir, Nebr. and S. Dak	143,484	2,077,219	13,000,000
(7) John H. Kerr Reservoir, Va. and N. C	25,500,495	17,465,001	6,840,000
(8) Garrison Reservoir, N. Dak	29,937,000	38,310,826	34,000,000
(9) Fort Gibson Reservoir, Okla	4,325,436	3,081,064	525,000
(10) Tenkiller Ferry Reservoir, Okla	5,019,623	3,625,995	2,250,000
(11) Detroit Reservoir, Oreg	15,167,100	17,418,000	10,700,000
(12) Lookout Point Reservoir, Oreg	15,212,700	16,440,000	17,250,000
(13) Fort Randall Reservoir, S. Dak	32,579,959	33,679,041	37,500,000
(14) Oahe Reservoir, S. Dak	3,585,600	4,341,404	3,500,000
(15) Dale Hollow Reservoir, Tenn. and Ky	262,443	580,978	1,491,000
(16) Whitney Reservoir, Tex	9,905,796	3,900,947	175,000
(17) All other	28,203,246	8,400,088	
2. Planning	1,886,534	3,527,114	1,500,000
CURRENT EXPENSES			
1. Operation and maintenance:			
(a) Flood control reservoirs (including multiple purposes other than power)	2,263,466	2,828,881	2,658,500
(b) Multiple-purpose reservoir projects which include power	1,752,768	2,354,524	2,753,500
(c) Other (including channel improvement projects and miscellaneous maintenance items)	1,109,363	817,999	700,000
2. Surveys, investigations, and other study programs:			
(a) Preliminary examinations, surveys, and miscellaneous study programs:			
(1) General	4,681,759	782,413	2,700,000
(2) Arkansas-White and Red River Basin survey	667,331	468,169	1,000,000
(3) New England-New York survey	310,338	624,662	800,000
(b) Stream-gaging programs	753,608	519,657	425,000
(c) Fish and wildlife studies	108,788	42,108	40,000
3. Administration (salaries, Office, Chief of Engineers, allotment roll)	752,226	832,500	960,000
Total direct obligations	356,275,780	358,424,610	300,795,000
Obligations payable out of reimbursements from other accounts			
MAJOR CAPITAL OUTLAY			
1. Construction:			
(a) Local protection:			
(1) Corps of Engineers (military functions)	446,996	770,000	770,000
(2) Other Department of the Army military functions	170,214	330,000	330,000
(3) Department of the Air Force	675,035	1,000,000	1,000,000
(4) Other Federal agencies	202,428	400,000	420,000
(5) Non-Federal agencies	124,003	766,000	766,000
(b) Flood-control reservoirs (including multiple purposes other than power):			
(1) Corps of Engineers (military functions)	481,171	688,000	700,000
(2) Other Department of the Army military functions	270,932	540,000	550,000
(3) Department of the Air Force	584,053	800,000	800,000
(4) Other Federal agencies	55,155	100,000	110,000
(5) Non-Federal agencies	206,083	618,000	620,000
(c) Multiple-purpose reservoir projects which include power:			
(1) Corps of Engineers (military functions)	65,423	120,000	120,000
(2) Other Department of the Army military functions	137,398	270,000	283,600
(3) Department of the Air Force	161,665	320,000	320,000
(4) Other Federal agencies	20,875	40,000	40,000
(5) Non-Federal agencies	164,420	492,000	506,500
2. Planning (Corps of Engineers, military functions)	22,538	45,000	45,000
CURRENT EXPENSES			
1. Operation and maintenance:			
(a) Flood-control reservoirs (including multiple purposes other than power):			
(1) Other Department of the Army military functions	2,770	7,000	7,000
(2) Non-Federal agencies	4,026	7,500	7,500

Obligations by activities—Continued

Description	1951 actual	1952 estimate	1953 estimate
CURRENT EXPENSES—continued			
2. Surveys, investigations, and other study programs:			
(a) Preliminary examinations, surveys, and miscellaneous study programs:			
(1) Corps of Engineers (military functions)	$1,726	$5,000	$5,000
3. Administration (salaries, Office, Chief of Engineers, allotment roll) (other Federal agencies)	3,501	1,500	
Total obligations payable out of reimbursements from other accounts	3,800,392	7,320,000	7,400,000
Total obligations	360,076,172	365,744,610	308,195,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Summary of personal services			
Total number of permanent positions	10,630	10,723	9,535
Full-time equivalent of all other positions	642	637	632
Average number of all employees	10,760	10,876	9,544
Average salaries and grades:			
General schedule grades:			
Average salary	$4,287	$4,803	$4,810
Average grade	GS–6.7	GS–6.8	GS–6.8
Crafts, protective, and custodial grades:			
Average salary	$2,908	$3,300	$3,310
Average grade	CPC–4.7	CPC–4.8	CPC–4.8
Ungraded positions: Average salary	$2,361	$2,395	$2,410
Personal service obligations:			
Pay and allowance to commissioned officers	$364,960	$365,000	$365,000
Permanent positions	38,279,900	42,410,443	37,600,414
Part-time and temporary positions	2,018,000	2,025,000	2,025,000
Regular pay in excess of 52-week base		162,857	144,386
Payment above basic rates	1,939,466	2,344,200	2,344,200
Total personal service obligations	42,602,326	47,307,500	42,479,000
Direct Obligations			
01 Personal services:			
Civilian	40,149,663	43,552,500	38,724,000
Pay and allowances to commissioned officers	364,960	365,000	365,000
02 Travel	1,542,785	1,649,650	1,500,000
03 Transportation of things	3,034,254	3,474,433	3,200,000
04 Communication services	426,856	524,165	400,000
05 Rents and utility services	1,129,894	1,236,105	1,200,000
06 Printing and reproduction	149,535	153,449	130,000
07 Other contractual services	9,821,559	10,853,021	8,500,000
Services performed by other agencies	2,746,168	2,200,000	2,000,000
08 Supplies and materials	6,957,179	9,026,879	5,525,000
09 Equipment	1,970,174	2,971,200	1,500,000
10 Lands and structures	288,464,540	282,864,208	238,197,500
13 Refunds, awards and indemnities	11,249	8,500	8,000
15 Taxes and assessments	29,268	70,500	70,500
Subtotal	356,798,084	358,949,610	301,320,000
Deduct charges for quarters and subsistence	522,304	525,000	525,000
Total direct obligations	356,275,780	358,424,610	300,795,000
Obligations payable out of reimbursements from other accounts			
01 Personal services, civilian	2,087,703	3,390,000	3,390,000
02 Travel	40,810	80,000	80,000
03 Transportation of things	7,376	10,000	10,000
04 Communication services	8,476	8,000	8,000
05 Rents and utility services	252,057	550,000	580,000
07 Other contractual services	796,901	1,500,000	1,500,000
08 Supplies and materials	274,921	600,000	618,500
09 Equipment	176,761	150,000	150,000
10 Lands and structures	153,937	1,028,500	1,060,000
15 Taxes and assessments	1,450	3,500	3,500
Total obligations payable out of reimbursements from other accounts	3,800,392	7,320,000	7,400,000
Total obligations	360,076,172	365,744,610	308,195,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$215,600,848	$223,203,871	$236,716,862
Obligations incurred during the year	359,977,724	365,832,991	308,195,000
	575,578,572	589,036,862	544,911,862
Deduct:			
Reimbursable obligations	3,800,392	7,320,000	7,400,000
Unliquidated obligations, end of year	223,203,871	236,716,862	196,511,862
Total expenditures	348,574,309	345,000,000	341,000,000
Expenditures are distributed as follows:			
Out of current authorizations	348,574,309	180,000,000	182,960,000
Out of prior authorizations		164,560,000	158,000,000
Out of anticipated 1952 supplemental for pay increases		440,000	40,000

GENERAL STATEMENT

Mr. RABAUT. General Chorpening, do you have a statement you would like to make at this time?

General CHORPENING. I would like to read this statement, which is brief. It is a widely publicized fact that during the past year this country has suffered damages from floods of the order of $2,500,000,000, most of which occurred in the Kansas-Missouri and Arkansas River Basins last summer. Our flood-control construction program approved by the Bureau of the Budget for fiscal year 1953 consists of 64 projects, including 16 multiple-purpose hydroelectric power-producing projects.

The appropriations requested for construction of these projects for fiscal 1953 amount to $285,118,000, as compared to $312,700,000 requested in fiscal year 1952 budget. In these times of international tension, the $285,000,000 requested this year may seem a large amount of money to be spending on flood control. However, the matter comes into proper perspective when one realizes that more than $400,000,000 in flood damages were prevented this past year by flood-control works already in place. Nor does this figure include the additional great benefits accruing to the people and to the Government as a result of the hydroelectric power developed at some of our flood-control dams now built.

As mentioned in the opening statement by the Chief of Engineers, the fiscal year 1953 program provides for the initiation of construction of only four new flood-control projects, three of which are located in the severely damaged Kansas-Missouri basin area, and the other being a multiple-purpose project which will provide hydroelectric power in the strategically important Aiken, S. C., area.

Funds sufficient to complete or essentially complete 14 projects are included in the fiscal year 1953 flood-control construction program. It is interesting to compare our flood-control construction program this year with that of last year.

I am happy to report that the estimated costs of over half of the flood-control projects in this year's program have either remained stable during the past year or have declined. However, on some of the projects, generally those which are in the early stages of construction, the general rise of the cost index during the past year has had its effect and is reflected in increased cost estimates.

I am also glad to report that all of the flood-control projects for which the Congress appropriated funds for completion last year are being essentially completed within the estimates submitted at that time. A few flood-control projects, five actually, included in last year's program and anticipated at that time to require final appropriations for completion in fiscal year 1953 have actually undergone reductions in their costs, so that these projects are being completed with the funds appropriated in fiscal year 1952. The amount of money involved in those five projects, which last year we contemplated would be required this year to complete, total $6,255,000.

Mr. RABAUT. Will you list for the record the projects that are being completed?

General CHORPENING. Yes, sir. You understand that those are five for which we would have come in for funds, but which we are able to complete with the funds we had available to us this year.

(The material to be furnished is as follows:)

The five projects referred to are: Harlan County Reservoir, Nebr.; Mount Morris Reservoir, N. Y.; Center Hill Reservoir, Tenn; Benbrook Reservoir, Tex.; San Angelo Reservoir, Tex.

General CHORPENING. With regard to the relatively few flood-control projects on which the total estimated costs have risen since last presented to this committee during hearings on our fiscal year 1952 appropriations, their effect on the over-all costs of this year's flood-control construction program is 4.7 percent. If those increases are applied to the portion of the work remaining to be obligated as of June 30, 1951, that increase would be 6.9 percent.

CONSTRUCTION

BLAKELY MOUNTAIN RESERVOIR, ARK.

Mr. RABAUT. The total estimated Federal costs on the Blakely Mountain Reservoir, Ark., project is $32,675,000. The allotments to date, $17,550,000. The appropriation in 1952 was $5,700,000, and the tentative allocation for fiscal year 1953 is $6,600,000.

This project as of the close of fiscal 1952 will be 54 percent completed, the money requested for 1953 would bring it to 74 percent completion.

General, make known to the committee what your intentions are for this $6,600,000.

General CHORPENING. This is a multiple-purpose dam and reservoir located on the Ouachita River in Arkansas; and of the funds tentatively set up for fiscal year 1953, the major portion will be applied to the powerhouse and power equipment and to the dam and intake structure.

This project will have a hydroelectric power installation and is in an area of the country where there is very definite need for the additional electric power that will be available from the project. The first power unit will be brought on the line in July 1954.

Mr. KERR. You say the power feature will be operating in 1954?

General CHORPENING. The first unit in July 1954, and the second unit in September 1954. The two units are all that we contemplate installing at this project.

BENEFIT-TO-COST RATIO

Mr. FORD. General, I notice that last year the benefit-to-cost ratio was 1.19 to 1; according to the justification this year, the benefit to cost ratio is 1.42 to 1. How do you explain that difference?

General CHORPENING. That is explained by a reevaluation of benefits, particularly in connection with the power benefits that will come from this project. Each year, in addition to revising our costs, we likewise revise our benefits; and those power benefits are arrived at by consultation with the Federal Power Commission and with the other agencies of Government whose job it is to figure those and work with us on arriving at the conclusions.

I think you will find—you have found—in some of our other projects the benefit-to-cost ratio has decreased.

Mr. FORD. I think, then, that explains the next question I was going to ask. Last year the flood-control benefits were estimated on an annual basis of $377,000. This year they are estimated at $633,000.

General CHORPENING. That is correct. And again that is an up-to-date evaluation of the flood-control benefits that will accrue. As years go by, we make a determination of the kind of crops that are being raised and the value of the land and the improvements that are on the land.

POWER BENEFITS

Mr. FORD. By a revision in the power benefits upward, the Federal Government eventually is supposed to get a greater return in direct revenue benefits. Is that correct?

General CHORPENING. That is correct; yes, sir. Again, going back to our discussion of a few days ago in connection with cost allocation, we have to arrive at the portion of the cost to be allocated to power; and our primary concern, from our view in talking to the agencies in Government that sell the power, is that the amount allocable to power in the project is paid off within the 50 years that we set up as the economic life of the project.

POWERHOUSE AND EQUIPMENT

Mr. FORD. I notice that under the items set forth in the justification under "Powerhouse and power equipment," you are going to make a substantial expenditure in fiscal year 1953, with more to be expended in the fiscal year after that. Will that be a continuing contract?

General CHORPENING. I am sure that it will be; yes, sir.

Mr. BOUSQUET. There is a continuing contract; yes, sir. It runs into fiscal year 1955.

Mr. FORD. What kind of clause will you have in those contracts? Will it be a firm provision or will it be an estimated provision?

General CHORPENING. In power equipment contracts there will be an escalation clause.

Mr. FORD. On the power-equipment part of it?

General CHORPENING. That is correct. On the construction—that is, the installation—there will not be.

Mr. FORD. Would you give us a breakdown for the record as to about how that might be set up as to what would be one part and what would be another part?

General CHORPENING. Yes, sir.

(The material furnished is as follows:)

Of the total of $10,700,000 for the item "Powerhouse and power equipment," approximately $3,660,000 is for power equipment which is subject to escalation. The balance, $6,040,000 is for items of construction, installation, Government costs which are not subject to escalation.

COST OF CLEARING LAND

Mr. FORD. Last year in the hearings there was considerable discussion about the land-clearing problem. Have you achieved any savings over what was contemplated last year?

General CHORPENING. I would like to review that a little more, but I am sure the answer is that we have not been able to effect any savings in the clearing here over what we anticipated last year. Of course we are reviewing the clearing very thoroughly, as was explained in some detail last year by Colonel Potter; and in some we have been successful in making very definite savings, by clearing less land than we had previously thought necessary.

You will note that there is no change in the over-all cost estimate on this project this year.

Mr. FORD. How was that accounted for, General?

General CHORPENING. It is accounted for by our estimates having been sufficiently conservative last year to take care of the over-all project.

PROGRESS OF CONSTRUCTION PROGRAM

Mr. FORD. I noticed that in hearings last year you had a curve of expenditures calling for 1953 of $7.5 million; 1954, $7 million; 1955, $325,000. In this justification for 1953 it calls for $6,600,000. Will that lower figure for fiscal year 1953 materially slow down your construction program?

General CHORPENING. We still expect to get power on the line on the dates I stated, which I believe are the dates of last year. Colonel Paules, can you say anything about that?

Colonel PAULES. I do not have with me the dates we carried last year.

General CHORPENING. I think they are essentially the same.

REQUEST FROM BUREAU OF THE BUDGET

Mr. FORD. What did you ask from the Budget for this year?

General CHORPENING. $6,682,000.

FLOOD CONTROL BENEFITS

Mr. FORD. Returning to one of the first questions I asked: Last year the average flood-control benefits were $377,000; the power benefits, $1,637,000. How do they compare this year?

General CHORPENING. The total for flood-control is $633,000; the total for power is $1,767,000; the total of the two, $2,400,000.

Mr. FORD. Then in both categories, flood-control and power, there has been an increase in benefits?

General CHORPENING. Yes, sir.

Mr. COHEN. Last year it was $1,637,000.

General CHORPENING. Could I make one more statement in connection with that project, which I think is of some interest to the committee?

Mr. RABAUT. Yes.

CEMETERY RELOCATION

General CHORPENING. In many of these projects, the problem of cemetery relocation is quite a considerable one. It is rather interesting on this project which is in a sparsely settled portion of the country, that we had 2,933 graves to relocate, for which we estimated the cost at $200,000.

That is a part of our relocation problem that is seldom thought about, but which is most difficult, and as you well recognize, a most sensitive one to handle.

Mr. KERR. How many cemeteries does that cover?

General CHORPENING. Actually, Judge, there are a number of cemeteries. I do not have the exact number, but many of them consist of a few graves here, a few graves there, which have been there many years. We must be most careful in locating these graves.

BULL SHOALS RESERVOIR, ARK. AND MO.

Mr. RABAUT. We will turn to the Bull Shoals Reservoir, Ark. and Mo. project.

Mr. RABAUT. This is a project with a total estimated Federal cost of $76,300,000. The allotments to date are $73,333,500. The appropriation in 1952 was in the amount of $14,960,000, and the tentative allocation for fiscal year 1953 is $1,400,000. This project as of the close of 1952 will be 96 percent completed, and with the money requested for fiscal year 1953 it will reach a rate of 98 percent.

Tell us, General, about this project and your progress with it up to this 96 percent of completion, and what your expectancy is to further complete it with the money for fiscal year 1953.

General CHORPENING. This is a multiple-purpose project on White River in Arkansas, which is rapidly approaching completion. We expect to place the first power unit on the line, 40,000-kilowatt capacity, in June of 1952.

The $1,400,000 requested for fiscal year 1953 is to be utilized for various features in nominal amounts, the largest of which are drilling and grouting, mosquito control, clean-up and landscaping, $410,000; relocation, roads and highways, $534,300; the project will be essentially completed with the funds being requested this year.

OZARK BEACH RELOCATION

Mr. RABAUT. What arrangements have you made, or do you contemplate making, with reference to the Ozark Beach relocation?

General CHORPENING. The Ozark Beach power plant will require enabling legislation for us to make provisions to protect it or to handle it. That is involved with the navigation laws wherein the Federal Government has a servitude on the navigable waters of the United States.

Mr. RABAUT. When did you become aware of the fact that this would take legislation?

General CHORPENING. I believe we have always been aware of the fact. There have been many discussions in our office and with the interested parties involved. At one time it was thought that it was a proper relocation under our general authority for relocations.

However, further study on the part of our legal people changed our thinking on the matter. It now appears that further legislation on the matter is required if any costs are to be paid for by the Federal Government.

Mr. RABAUT. If you discovered an irrigation project there and you were going to more or less eliminate it, you would have to take it into the cost. You would have to do something about replacing that irrigation project. If it wasn't going to be replaced, you would have to determine what the physical value of it was.

General CHORPENING. Yes, sir.

Mr. RABAUT. Now, just because this happens to be a power plant, you give it no effect at all?

General CHORPENING. It is not because it is a power plant or what the nature of it is. It gets into what the lawyers call the servitude of navigation, where if funds are required to move some structure that is in a navigable stream, that structure can be ordered moved without expense to the Federal Government.

Actually, sir, this gets into a legal matter that our legal staff could explain much better than I.

Mr. RABAUT. This is the first time we have ever heard a word of this problem. Colonel Potter said last year, speaking about this Ozark Beach—and I quote an extract from his remarks:

> At the present time we are in negotiation with the Ozark Beach people to determine the amount the Federal Government is responsible for.

General CHORPENING. That was correct at that time. But at about that time, one of the first things that I handled upon taking over this job, was the question raised by our legal people: Did we have the authority to spend Government funds in connection with the relocation or protection of that plant?

(Discussion off the record.)

Mr. RABAUT. Is this the first time the corps has ever had an experience of this type?

General CHORPENING. I think it is the first time that we have actually had an experience where a power plant was involved, but the question of Federal rights on navigable streams is coming up all the time. As a matter of fact, that was the reason why the Truman-Hobbs Act was passed some years ago, because up until then any time we ordered the railroads to change their bridges over navigable waterways, the railroads had to pay the full amount.

Mr. RABAUT. Has any legislation been introduced to take care of this matter?

General CHORPENING. I do not think that there has been at this time.

Mr. RABAUT. Are you contemplating sending legislation up here?

General CHORPENING. No, sir, we would not do that.

Mr. RABAUT. Is it the feeling of the Corps of Engineers to leave this in a status quo?

General CHORPENING. The interests who own the plant have been told that we are building the reservoir, and we are going to fill it;

and under the law they must take whatever steps are necessary to protect themselves.

Mr. RABAUT. Has the Ozark Beach relocation not been included in the estimated cost?

General CHORPENING. It is in here, as indicated for "After fiscal 1953."

Mr. RABAUT. We naturally believed you were going to make a settlement with them, since you included it in the estimated costs. It certainly must leave them in the same frame of mind.

General CHORPENING. Since there was a possibility that there might be legislation or direction that it be done, it was still left in the estimate.

Mr. RABAUT. What is the basis for the $770,200 estimated cost for this relocation?

General CHORPENING. If it is required that this relocation be made, this is our estimate of the cost of building the necessary protective works to preserve the power facilities of the Ozark Beach Co.

Mr. RABAUT. Will you furnish for the record the date that counsel advised you concerning this matter?

General CHORPENING. Yes, sir.

(The information requested is as follows:)

In January 1951 it was decided on advice of legal counsel that the Government had no liability for any physical damage to any part of the Ozark Beach plant founded within the normal high-water lines of the river.

DAMAGE OF INJURY TO PRIVATELY OWNED POWER PROJECT IN A NAVIGABLE WATERWAY OF THE UNITED STATES

Question has been raised concerning the right of the Federal Government to injure or destroy a privately owned hydroelectric power development in a navigable waterway of the United States, without liability to the owner for the resulting damage.

Title to the shores and beds of navigable streams are vested in the States or their grantees, but such title is qualified by an easement in favor of the General Government for the benefit of navigation. This easement is derived from the commerce clause of the Constitution which conferred upon Congress the power to regulate commerce with foreign nations, among the several States, and with Indian tribes.

Under this power the Federal Government has a right to the full flow of a river for navigation purposes, and the right to occupy and use, for the preservation and improvement of navigation, the whole body of the stream and the soil thereunder between ordinary high-water lines, without making compensation therefor, and this is true whether the areas below high-water mark are retained by the States, or have been granted by the State to the owners of the adjacent upland. The law of the State merely fixes the riparian owner's rights as between himself and the State, or between himself and other persons, but does not affect the Federal easement in favor of public navigation, which was at all times paramount and exclusive of any rights of the State or its grantees.

The doctrine has been sustained in a long line of decisions by the Supreme Court of the United States. (See *Gibson* v. *United States*, 166 U. S. 269; *Scranton* v. *Wheeler*, 179 U. S. 141; *U. S.* v. *Chandler-Dunbar*, 229 U. S. 53; *Lewis Blue Point Oyster Co.* v. *Briggs*, 229 U. S. 82; *U. S.* v. *Willow River Co.*, 324 U. S. 499.)

In the case of *U. S.* v. *Chicago, M., St. P. & P. R. Co.*, 312 U. S. 592, the Court said:

"It is not true, as respondents maintain, that only structures in the bed of a navigable stream which obstruct or adversely affect navigation may be injured or destroyed without compensation by a Federal improvement of navigable capacity. On the contrary, any structure is placed in the bed of a stream at the risk that it may be so injured or destroyed; and the right to compensation does not depend on the absence of physical interference with navigation."

That the power of the United States under the commerce clause of the Constitution extends to control of floods on navigable waters as well as the improvement of navigation is also established by Supreme Court decisions, viz: *United States* v. *Appalachian Electric Power Co.*, 311 U. S. 377; and *Oklahoma* v. *Atkinson*, 313 U. S. 508.

JOSEPH W. KIMBEL,
Special Counsel, Office, Chief of Engineers.

PROGRESS AND COST

Mr. FORD. General, will you explain to the committee why there has been no change in the estimated completion cost of this project?

General CHORPENING. We are close to completion, Mr. Ford, continuing contracts are in force, that with the amount of contingency funds we had set up, there was no need to change the cost estimate this year.

Mr. FORD. According to the justifications on page 168, it says:

The over-all project is about 81 percent complete.

Then on page 167, it says:

At the end of fiscal year 1952, the project is 96 percent complete; and with the appropriation for 1953, the project will be 98 percent complete.

Is there not some inconsistency there?

General CHORPENING. Eighty-one percent is the status as of January 1, 1952; and the percent that we show on page 167 is the percentage as of the end of the fiscal year. As we stated the other day, that is an arithmetical percentage based on the amount of funds appropriated up to that time against the estimated cost.

BENEFIT-COST RATIO

Mr. FORD. According to the testimony last year, the benefit to cost ratio was 1.71 to 1. This year I believe it is 1.62 to 1. What is the explanation of that?

General CHORPENING. That is a reevaluation of the benefits since last year; and I can state, if you would like, what our present evaluation benefits are.

Mr. FORD. Will you please, for the record?

General CHORPENING. Our present estimate of total benefits for flood control is $2,572,800; and our present estimate of benefits for power is $3,241,000, a total of $5,768,800.

Mr. FORD. According to the figure of last year, during the testimony, the flood control annual benefit was $2,732,200; but there was no figure in dollars given for power. Do you have the figure for last year for power in dollars?

General CHORPENING. We can supply that, sir.

(The material requested is as follows:)

The average annual benefits for power for the fiscal year 1952 breakdown amounted to $3,279,000.

RELOCATION OF WATER TOWER

Mr. FORD. General, I notice there is a $10,000 figure set up for the relocation of a water tower. Has that anything to do with poor planning as far as engineering is concerned? I am quoting from page 169:

And relocating the project water tower to provide access for SPA transmission lines ($10,000).

General CHORPENING. I would have to supply the reason for that relocation for the record. It would be my surmise that this water tower was built in the very early stages of the project 4 or 5 years ago before the plans of the Southwestern Power Administration were firmed; and that since that time it developed that we had a water tower in a position from which it was proper and economical to move to another location. But I would like to check that for the record.

Mr. FORD. Would you also include for the record any information that might indicate whether this change was made at the request of the Southwestern Power Administration, or was it something you did on your own?

General CHORPENING. We can make that. I am sure that it was made at their request.

(The information to be supplied is as follows:)

The project office building and water tower at the Bull Shoals project were planned and erected in 1946 prior to initiating construction on the dam. At that time the location of the powerhouse switchboard had been planned at a different location than that presently proposed due to the fact that the marketing plans of the Southwestern Power Administration had not been firmly established. When the number and direction of transmission lines required to market the power were definitely determined in 1951 it was found that the location of the water tower resulted in a hazard to one of the transmission lines through lack of adequate clearance. Due to the close proximity of the water tower to the presently proposed switchyard and the limiting angle at which the presently planned transmission lines can enter the switchyard, it was found to be advisable from an engineering standpoint in addition to being more economical to move the water tower than to attempt to utilize additional line structures to carry the transmission lines at a safe distance from the water tower in its present location. A formal request was submitted by the Southwestern Power Administration for the Corps of Engineers to make this relocation.

RESERVOIR MANAGEMENT

Mr. FORD. I notice that in the justifications, page 166, you are asking for $68,500 for reservoir management and public use for fiscal year 1953. And after fiscal year 1953 under that title there is an amount of $726,500. What is the $68,500 to be used for specifically?

General CHORPENING. Floating plant, $6,000. That would be some small boats necessary for the maintenance of the project and for getting around the lake, which we of course control. Malaria control, $4,000. Access roads, $50,500. Soil erosion control in the vicinity of the dam, $6,000. And sanitary facilities, $2,000.

Mr. FORD. During the testimony last year, Colonel Potter, in response to a question by Mr. Rabaut, said:

During the defense period we do not plan to go into that particular part of the project.

And he was referring to $845,000, I think, for reservoir management and public use.

Do you plan to go ahead with public use facilities during the present defense emergency?

General CHORPENING. We do not plan to; and further, the Bureau of the Budget has given us definite instructions that we will reduce reservoir management and public use expenditures to the minimum extent during this period. These expenditures that we are proposing to make this year are considered to be the minimum expenditures that should properly be made at this time and are necessary for the proper maintenance and operation of the project.

I might mention, Mr. Ford, and call your attention to Colonel Potter's further statement at the top of page 375 last year wherein he said that—

In 1953 it may not all be required, depending upon the defense situation and the build-up of the recreational use of this reservoir.

He also said:

The Federal Government must see that it does not have a feature that is a hazard to the area. But if we start getting mosquito incidences, for instance, we will have to spray the area to see that it is kept down.

RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM, ARK., TEX., AND LA.

Mr. RABAUT. The next project is the Red River levees and bank stabilization below Denison Dam, Ark., Tex., and La.

This is a project with a total estimated Federal cost of $9,088,000. Allotments to date are $3,620,900. There was no appropriation in 1952. The tentative allocation for fiscal year 1953 is $634,000. This project at the close of 1952 will be 40 percent completed. It has remained at that percentage now for some time. The money requested for fiscal year 1953, namely, $634,000, would bring the rate of completion to 47 percent.

Make a brief general statement on this project.

General CHORPENING. This project is a major component of the comprehensive plan for flood control on the Red River below Denison Dam, and includes the construction of levees and bank protection works for flood control and to prevent the erosion of the banks of the river, which endangers the levees that are in place that have been built at Federal and local expense. These levees protect some highly developed areas in that part of the country.

I may say that the Red River in its characteristics of erosion is quite similar to the Arkansas River and to the Missouri River, which we have discussed at some length in these hearings; and we have a similar problem existing here. The $634,000 which is being requested for this fiscal year will be entirely devoted to the construction of additional bank protection works along stretches of the river where, unless this is done, set-backs of levees would have to be made.

Mr. KERR. Is this river a tributary of the Mississippi?

General CHORPENING. Yes, sir. You will recall on our trip down the Mississippi River, the Red River comes in at what is known as Old River just above the Morganza structure.

Mr. RABAUT. What is the defense significance of this project?

General CHORPENING. The defense significance is that we have a very considerable transportation network in the Red River Basin, together with many industrial plants, large food and fiber production

areas and important military installations such as the Lone Star and Red River ordnance works near Texarkana, and the Barksdale Air Force Base and Louisiana ordnance works near Shreveport.

Mr. RABAUT. What particular projects will be protected by the work that is contemplated in this estimate?

General CHORPENING. I would like to furnish that specific information for the record.

Mr. RABAUT. All right, furnish it for the record.

(The material to be furnished is as follows:)

McNeely cut-off.—Bank protection work is needed for McNeely cut-off to maintain the integrity of the controlling levee. Continued caving would result in destruction of the levee. Destruction of the levee during overbank stages would flood approximately 20,000 acres of land, 10,000 of which is cropland. In addition, the main line of the Louisiana & Arkansas Railroad, and United States Highway No. 71, both important transportation arteries, would be flooded.

Curtis location.—Bank protection works at Curtis are needed to prevent destruction of the controlling levee and to provide a favorable channel alinement. Destruction of the levee during overbank stages would flood approximately 32,000 acres of land, of which 10,000 is cropland. In addition, the main line of the Louisiana & Arkansas Railroad and United States Highway No. 71 would be inundated, thus interrupting traffic on these main transportation arteries. Barksdale Field would also be affected by backwater. If caving is permitted to continue a channel alinement detrimental to the bank stabilization works at Lucas Bend, downstream from the Curtis location, would result. Lucas Bend stabilization works were constructed to prevent destruction of the Texas & Pacific Railroad and Louisiana State Highway No. 30 both important transportation arteries to Shreveport and Barksdale Field.

Coushatta.—Bank protection works are needed at the town of Coushatta to protect the improvements adjacent of the river bank and to the highway bridge valued at $1,000,000. Limited bank protection works were constructed during fiscal year 1951 with emergency funds and local contributions to protect the bridge abutments. Failure to arrest caving would result in a loss of existing bank protection works.

Cash Point.—Bank protection work is necessary for the Cash Point location to prevent a levee set-back which would result in the relocation of the Texas & Pacific Railroad and United States Highway No. 71. A failure of the levee would destroy these transportation arteries in addition to flooding approximately 22,000 acres of land of which 9,000 is cropland.

ALLOCATION OF FUNDS

Mr. RABAUT. Why were no funds allocated for this work in fiscal 1952?

General CHORPENING. There was a small amount of carry-over funds from previous years which were being expended and no funds were allowed in the budget.

Mr. RABAUT. I ask that question because of the fact that you say it seems necessary now for the defense effort, and last year no funds were allocated for this work.

General CHORPENING. That is correct. There were none allocated last year, but about $74,300 will be obligated in fiscal year 1952 from prior funds.

REQUEST FROM BUREAU OF THE BUDGET

Mr. FORD. What did the Corps of Engineers request in the budget for fiscal year 1952?

General CHORPENING. $360,000 in fiscal 1952.

Mr. FORD. What did the Corps of Engineers request this year in the budget for fiscal year 1953?

General CHORPENING. $800,000.
Mr. FORD. And they allowed you $634,000?
General CHORPENING. Yes, sir.

BENEFIT-COST RATIO

Mr. FORD. How up-to-date is the benefit-cost ratio of 1.5 to 1?
General CHORPENING. That review of the benefits has just been completed recently.
Mr. FORD. The declared benefits are reflected?
General CHORPENING. Yes, sir.

CHANGE IN COST ESTIMATE

Mr. FORD. Has there been any change in the cost estimate of this project since its initiation?
General CHORPENING. The change in the cost estimate since the last estimate was presented to the Congress is $358,000.
Mr. FORD. That is based on what?
General CHORPENING. Based on over-all increases in costs.
Mr. FORD. What was the last year that there were any appropriations for this project?
General CHORPENING. Fiscal year 1951.
Mr. FORD. How much was appropriated then?
General CHORPENING. I will have to furnish that for the record.
(The data to be furnished is as follows:)

The amount appropriated for fiscal year 1951 was $500,000.

Mr. FORD. It seems to me, from reading the justifications, the basis for the inclusion is pretty general and very sweeping, and it is almost the kind of a justification you can use for practically any flood-control project of this sort.
General CHORPENING. Except this, Mr. Ford. There is a levee system there built at Federal expense. In places the erosion of the river is getting critically close to those levees. Unless bank revetment is installed, then the Federal Government is either going to have to go in on an emergency basis or let the levees fail and then we will have to rebuild them under our over-all emergency authority, which would be more expensive, and the damages that might result much more expensive, than taking corrective measures now.

TYPE OF REVETMENTS

Colonel Hiatt, I think we have a map in the back of the planning report which will show where these locations are.
Mr. FORD. Will these revetments for bank stabilization be of the articulated type that you use on the Mississippi?
General CHORPENING. No, sir. We do not use the concrete type. They will be more of the type of construction that we utilize on the Missouri or on the upper Arkansas. The Red River is a relatively shallow river as compared to the Mississippi, and the same explanation there applies as I made to you the other day as to why we do not use concrete revetments on the Missouri.

CHERRY VALLEY RESERVOIR, CALIF.

Mr. RABAUT. The next project is Cherry Valley Reservoir, Calif. This project has a total estimated Federal cost of $8,000,000. Allotments to date, $5,030,900. The 1952 appropriation was for $3,400,000. The tentative allocation for fiscal year 1953 is $2,514,100. The project as of the close of 1952 will be 63 percent completed, and that rate will rise to 95 percent with the money requested for fiscal 1953.

Give us a brief statement on this, General, please.

General CHORPENING. This is a flood-control and water supply reservoir, part of the comprehensive plan for flood control in the Sacramento-San Joaquin Basin. This is a most unusual project in that the law provides that the Federal Government turn over the funds, to the local interests and local interests build the project. That was rather fully explained last year by Colonel Potter.

The funds tentatively allocated for fiscal 1953 will all be turned over to local interests for expenditure under existing continuing contracts for the structure.

Mr. RABAUT. What contributions have the city made to the overall project to date, and what is contemplated in fiscal year 1953?

General CHORPENING. I will have to supply that for the record.

(The material to be furnished is as follows:)

Funds which have been contributed by the city of San Francisco to the Cherry Valley project total $3,287,000.

The amount to be made available by the city for fiscal year 1943 will be such as to match the fiscal year 1953 Federal appropriation on the ratio that the local cost ($5,320,000) bears to the Federal cost ($8,000,000). This will amount to approximately $1,675,000 based on the approved budget estimate for fiscal year 1953.

PERCENTAGE OF COMPLETION

Mr. RABAUT. Last year you estimated an appropriation of $3,500,000 would bring the project to 42 percent of completion. The justifications show an allotment of $3,400,000 for 1952; yet the completion percentage is 63 percent. How do you explain this discrepancy?

General CHORPENING. The percentage completion through fiscal year 1952 on the justification sheet for fiscal year 1952 represented the percentage completion for the entire Federal requirement on the Tuolumne River project on a fiscal basis. If the figure for Cherry Valley Reservoir alone would have been reported it would have amount to 70 percent based on the Approved Budget amount for fiscal year 1952 or 63 percent based on the actual appropriation.

Mr. FORD. From the justifications, it is my recollection that there is some talk now about a power aspect of this particular project. I may be in error on that.

General CHORPENING. I do not recall any discussion or consideration of power in this project, Mr. Ford.

Mr. FORD. As I recall the previous questions asked by Mr. Rabaut, you are going to supply the figures showing the contributions made by the local interest in this two-pronged project for Cherry Valley and New Don Pedro?

General CHORPENING. Yes.

Mr. FORD. Have they started construction yet?

General CHORPENING. I do not think so.

Mr. COHEN. Cherry Valley will be built as the first phase of their over-all project for water supply and flood control; and at some future date they will build New Don Pedro and transfer the flood-control storage from Cherry Valley over into New Don Pedro, which is our ultimate plan.

Mr. FORD. You will not just abandon Cherry Valley?

Mr. COHEN. No, sir. They will take up that storage for their water supply and other purposes, and transfer the flood control over to New Don Pedro.

Mr. FORD. Eventually you are going to have two projects, Cherry Valley and New Don Pedro, and both will be in operation. One will not be abandoned after the other is constructed?

Mr. BOUSQUET. They will use Cherry Valley principally for their water supply, and the project that they build for their water supply they will give us for the storage that we will have in Cherry Valley on the completion of New Don Pedro. They will just transfer that storage to another reservoir.

BENEFIT-TO-COST RATIO

Mr. FORD. What is the benefit-cost ratio on Cherry Valley?

General CHORPENING. 1.1 to 1.

Mr. FORD. Will that be affected one way or the other by the construction of New Don Pedro?

General CHORPENING. No, sir. It will be the same.

Mr. FORD. In the information you are going to furnish for the record, it will show when New Don Pedro is supposed to get under way?

General CHORPENING. We can include that, yes, sir.

Mr. FORD. And also the estimated cost of New Don Pedro.

General CHORPENING. Yes, sir.

(The material to be supplied is as follows:)

The present plan of local interests is to start construction of the New Don Pedro Reservoir in 1960. The total estimated cost of that project is $70,000,000.

FOLSOM RESERVOIR, CALIF.

Mr. RABAUT. This is a project with a total estimated Federal cost of $57,870,000. The allotments to date, $15,952,000. The appropriation for 1952 was $6,870,000. The tentative allocation for fiscal year 1953 is $18,130,000. The percentage of completion as of the close of 1952 will be 27 percent; and that rate, with the 1953 money requested, would bring it to 59 percent. The cost-benefit ratio here is listed as 1.5 to 1.

General CHORPENING. Folsom Reservoir in California is a multiple-purpose project, being constructed jointly by the Corps of Engineers and the Bureau of Reclamation—the power features essentially being built by the Bureau of Reclamation.

Of the funds being requested for fiscal year 1953, $18,130,000, by far the major portion, $12,778,000, will be applied to the main dam and appurtenances, and supply contracts. It is essential that the funds being requested by the Corps of Engineers be allowed in this amount because our request is closely and completely coordinated with the request being made by the Bureau of Reclamation for the power facili-

ties which must proceed concurrently with the construction of the dam itself.

Mr. RABAUT. Do you coordinate your estimate with the Bureau of Reclamation?

General CHORPENING. We coordinate with them and of course the Bureau of the Budget further coordinates it.

INCREASED COSTS

Mr. RABAUT. What is the reason for the increase in the estimated cost from $50,792,000 last year to $57,870,000 now? That is more than the cost level increase.

General CHORPENING. Price level changes account for $2,877,000 of the increase in cost. Structural and engineering modifications account for amounts that I will give. We had to increase the length and capacity of the diversion tunnel to provide for protection of the powerhouse construction and to permit for a longer working season for the construction of the dam and powerhouse. That was $560,000.

It was necessary that we increase the capacity of the right bank pumping facilities to care for future water. That was $485,000. Further and refined engineering design indicated we needed to increase the number of flood outlets from four to eight, $430,000. We had to change our original designs as a result of further and complete detailed studies to change the stilling basin from a flip bucket to the five river spillway bays. That was $2,690,000.

Now then, in coordinating the design and construction programs between the corps and the Bureau, it was found that a portion of the construction that should be chargeable to power could be more efficiently and more economically done if we included it in our part of the program; accordingly then, we increased our estimate $1,927,000 to take care of that part which would otherwise have been done and included in the Bureau of Reclamation's own estimate for the power phases.

Mr. RABAUT. Should that not be justifiably their cost so it would reflect itself in the rate?

General CHORPENING. It will be at such time as the allocations of the cost of the over-all project are made against which the project will be amortized. We redesigned the right wing of the dam to utilize materials excavated from the powerhouse tailrace channel, and we saved $2,595,000 by that. In addition, we got a more favorable bid price on the Mormon Island auxiliary dam than we previously estimated, and that reduced the cost by $617,000.

In excavating the dam abutments, we found some foundation difficulties and had to go down to a lower elevation than anticipated, which made an increase of $1,321,000. All of those pluses and minuses makes an over-all difference of $7,078,000.

Mr. RABAUT. Actually the price level then only changed it $2,877,000.

General CHORPENING. The price level and the amount that we are doing which would normally be included in the power phase of it adds up to very nearly $5,000,000. So the remainder is due to changes we have had to make that we did not anticipate last year to get a properly designed and constructed dam.

BUREAU OF RECLAMATION PLANS

Mr. RABAUT. What are the plans of the Bureau of Reclamation for 1953 for the power facilities in this project?

Colonel PAULES. The schedule submitted last year was for three units of 54,000 kilowatts to be installed in July, September, and December.

Mr. RABAUT. 1953?

Colonel PAULES. 1954. We are checking with the Bureau of Reclamation at this time to make sure that their present schedule is the same.

Mr. RABAUT. Suppose you supply additional information on this matter for the record.

Colonel PAULES. Yes, sir.

(The information to be supplied is as follows:)

Funds in the amount of $13,135,172 were approved by the Bureau of the Budget for the activities of the Bureau of Reclamation for fiscal year 1953 in connection with the provision of power facilities at Folsom Reservoir. These funds will be required to continue contract payments for the construction of and purchase of equipment for the Folsom and Nimbus power plants including the switchyards, and for Nimbus Dam, and to issue specifications and award contracts and provide progress payments for the construction of the housing units.

The present power schedule of the Bureau of Reclamation based on the amount approved by the Bureau of the Budget for fiscal year 1953 is as follows:

Main dam (three 54,000-kilowatt units):

First, September 1954; second, November 1954; and third, January 1955.

Downstream reregulating dam (Nimbus).

One 13,500-kilowatt unit—January 1955.

COMPARISON OF RELOCATION COSTS

Mr. RABAUT. What are your specific relocations here, and their estimated cost?

(The material to be furnished is as follows:)

Item	Total cost fiscal year 1952	Total cost fiscal year 1953
Roads	$2,115,000	$2,137,100
New Hinkle ditch	345,000	345,000
Natomas bypass tunnel	77,000	77,000
Halsey Junction power transmission lines	350,000	490,000
P. G. & E. distribution lines	55,000	55,000
Natomas settlement agreement	50,000	
North fork ditch settlement agreement	150,000	150,000
Miscellaneous minor relocations	148,000	19,500
Relocating of remaining North Fork facilities		1,215,000
Relocation of remaining Natomas facilities		815,400
Total	3,290,000	5,340,000

REASONS FOR COST INCREASES

It will be noted that no increases are shown for New Hinkle ditch, Natomas-bypass tunnel, P. G. & E. distribution lines, and the North Fork ditch settlement agreement. Two items of relocations covering the remaining North Fork facilities and Natomas facilities are shown with an estimate of cost for fiscal year 1953 for which no estimate was included under relocations breakdown for fiscal year 1952. The estimated cost for this work was included in the fiscal year 1952 estimate breakdown under the item "Main dam and appurtenances." Other variations in the costs cover the Natomas settlement agreement which has been negotiated without additional cost, the Halsey Junction power transmission lines for which final negotiation resulted in a cost to the Federal Government

of $490,000; the item of road relocations which has reached final settlement except for Rattle Snake Bridge and now reflects a slight increased cost; and the item of miscellaneous minor relocations on which present negotiations indicate a cost reduced to $19,500. These changes result from further negotiation and exclusive of the items not included as a part of the relocation cost for fiscal year 1952 reflect a net increase of $20,000 over the comparable items shown last year.

STATUS OF NEGOTIATIONS FOR RELOCATIONS

Mr. RABAUT. Also supply for the record the status of the negotiations on each of these relocations and the reason for any changes in the estimated cost.

General CHORPENING. We will supply that for the record.

(The material to be supplied is as follows:)

The status of negotiations on the relocations items listed above is as follows:

All negotiations are complete with the exception of the items listed below:

Roads.—Complete except for Rattle Snake Bridge. Condemnation action on this relocation is now proposed.

North Fork Facilities.—Negotiations are presently under way for a settlement agreement in connection with relocating the remaining North Fork facilities. Further action on this case will be taken upon receipt of additional information from the Bureau of Reclamation concerning the water rights involved.

Miscellaneous minor relocations.—This item covers the relocation of three rural telephone lines all of which are under negotiation.

LAND COSTS

Mr. RABAUT. What are the land costs here by type and how much of each type do you plan to take?

General CHORPENING. Residential, 160 acres, $700 per acre. These are round figures. Orchard and vineyard, 300 acres, $554 per acre. Agricultural, 2,000 acres, $125 per acre. Grazing, 17,240 acres, $74.50.

Mr. RABAUT. List the continuing contracts now in effect.

General CHORPENING. We will supply that.

(The material to be supplied is as follows:)

The continuing contracts now in force and proposed during the current fiscal year on the Folsom Reservoir are as follows:

1. P. G. & E. transmission line relocation (Halsey Junction, Newark), No. 440.
2. Mormon Island auxiliary dam (No. 467).
3. Slide gates-main dam (supply contract) (No. 564).
4. South Fork Road relocation.
5. Pumps and motors (supply and installation).
6. Main dam and appurtenances.
7. Spillway radial gates (supply).
8. Penstock emergency gate hoists (supply).
9. Penstock gates, gate frames, guides, and anchors (supply).
10. Gantry crane (supply).

COST ESTIMATES

Mr. RABAUT. I am informed that a contract was let for this project in the fall of 1951 for approximately $29,440,000, and that this figure was $2,000,000 under the Corps' "without profit" estimate. Is this saving reflected in the reflected total estimated cost? If, how?

General CHORPENING. When was that?

Mr. RABAUT. The fall of 1951. It was bid by the Savin Construction Co. and Merritt, Chapman & Scott for Folsom Dam.

General CHORPENING. These estimates that we have here were made up and based on July 1951 prices. So the estimates under discussion

could not possibly have taken into consideration the bid opened late in 1951. Now, our estimates for fiscal 1954 should and would reflect any saving at that time.

Mr. RABAUT. All we want to know is where the reflection is or will be shown.

General CHORPENING. First, let me say, of course, the Government estimate for the opening of those bids was made as of that particular time that the bids were opened; and depending on what happens to the price indexes between now and this coming July, when we must again estimate for a presentation to the budget and to the Congress, if indexes remain stable I would expect it would be reflected in our estimate as of that time.

Mr. RABAUT. Will you file for the record the estimated cost of this project as of January 1?

General CHORPENING. I would of course be glad to do that if you so desire.

(The information requested will be supplied the committee.)

Mr. RABAUT. That ought to show where this saving is reflected.

General CHORPENING. However, I must tell you that to make a proper reestimate as of a new date, a reliable estimate, is not something we can do in a few minutes, sir. We should take every part of the project and re-evaluate it as of that time.

EXCERPT FROM ENGINEERING NEWS RECORD

Mr. RABAUT. Please comment on this article that appeared in The Engineering News Record of September 13, 1951.

Speaking of Folsom Dam, there are some who say the bid could have been lower if the stilling basin below the spillway had been omitted. The Corps of Engineers have been using flip bucket spillways or some other form of energy-diffusing device instead. And even though Folsom is the corps' flood-control project, the Bureau of Reclamation has the say in the development, since it will develop power and irrigation benefits. The Bureau's insistence on an expensive stilling basin may have added as much as $2,000,000 to the project's cost.

What about that?

General CHORPENING. That was one of the items that I read that has increased the cost $2,690,000.

Mr. RABAUT. Are they going to charge that to power?

General CHORPENING. No, sir.

Mr. RABAUT. You mean you people are going to pay for that?

General CHORPENING. Yes, sir.

We carried on model studies in connection with the project, Mr. Rabaut, and from those model studies we were convinced that we should make this modification of the plans.

On most of our projects, particularly the more expensive ones, we make model studies of our structure and of the spillways to determine whether our design computations are correct. Many times a straight design will seem like it is satisfactory but when you make a model you discover that you may be setting up a critical condition that might endanger the structure.

We cannot take any chances on endangering a structure such as a dam.

Mr. RABAUT. Inasmuch as this is a criticism of a part of the construction of the Folsom Dam, I think it would be well if you would

bring some pictures and other data you have in your possession to the committee tomorrow morning and explain the need for this particular facility of the dam.

General CHORPENING. Yes, sir.

REFLECTION OF SAVINGS

Mr. FORD. General, assuming that there will be this saving mentioned earlier in the bid that went to Savin Construction Co. and Merritt, Chapman, Scott, is it not likely that that reduction of $2,000,000 will be reflected in the appropriations for 1953?

General CHORPENING. What I would say is, certainly a reduction should be reflected—unless there are changes in the price indexes between the time that the bid was prepared, which was sometime this past fall, and next July when we make the estimates—in the project estimate; yes, sir.

Mr. FORD. And that saving would logically, I should think, come out of the contemplated expenditures for fiscal year 1953.

General CHORPENING. I believe that was a continuing contract which extends over 1953, 1954, 1955, and part of 1956.

Mr. FORD. At least a portion of it would be reflected in the actual expenditures in fiscal year 1953.

General CHORPENING. I would certainly expect so; yes, sir.

BUREAU OF RECLAMATION'S PART IN FOLSOM PROJECT

Mr. FORD. Last year, General, it was testified that in fiscal year 1951 the Corps of Engineers requested for the Folsom project $6,500,000, and the Congress actually appropriated for fiscal year 1951, $4,400,000. For fiscal year 1952, the Corps requested $6,985,000, and the Congress appropriated $6,870,000. This project is to be built in combination with the Bureau of Reclamation. Last year it was testified that the Bureau of Reclamation expected to request of the Congress $15,273,000 in fiscal year 1953.

Do you know what the Bureau of Reclamation actually requested in the budget for the coming fiscal year?

General CHORPENING. We do not have that. We can furnish it for the record.

Mr. FORD. Would you do that, please, General.

(The material to be furnished is as follows:)

The amount approved by the Bureau of the Budget for the activities of the Bureau of Reclamation for fiscal year 1953 in connection with the provision of power facilities at the Folsom Reservoir is $13,135,172. Additional data concerning the requirements of the Bureau of Reclamation are as follows:

Total estimated cost	$36,821,000
Appropriated through June 30, 1951	707,630
Fiscal year 1952 appropriation	7,973,223
Subtotal	8,680,853
Fiscal year 1953 approved budget amount	13,135,172
Subtotal	21,816,025
Remaining after fiscal year 1953	15,004,975
Total	36,821,000

INCREASE IN ESTIMATE

Mr. FORD. Last year it was testified on page 395 of the hearings that in fiscal year 1953, the Corps of Engineers contemplated spending $16,000,000 on this project. According to the budget for fiscal year 1953, the Corps is requesting $18,130,000. How do you explain that inconsistency?

General CHORPENING. I explain that, Mr. Ford, by going back to my statement in connection with the over-all increase on the project and the portion of that over-all increase is reflected then in the amount requested for this fiscal year.

Mr. FORD. Then I bring up the amount that, according to the information given the committee, you gat a $2,000,000 saving in a contract that will be in effect for fiscal years 1945, 1955, and possibly 1956.

General CHORPENING. The portion of that contract that will be done in the remainder of this fiscal year and fiscal 1953 would probably result in some lesser amount than what has been set up for that particular phase.

Mr. FORD. What is the contemplated expenditure program as now set up?

General CHORPENING. For fiscal year 1954, $20,000,000. Fiscal year 1955, $3,788,000.

Mr. FORD. In other words, the completion date is identical with what you had in mind a year ago?

General CHORPENING. Yes, sir.

CONTINUING CONTRACT

Mr. FORD. It is anticipated that the continuing contract that has been mentioned several times here will run until fiscal 1956?

General CHORPENING. The middle of 1955. If I said 1956 before, I was in error.

Mr. FORD. Has there been any change in the benefit-cost ratio on the power, irrigation, or flood-control aspects of this project? Colonel Potter testified that the benefit-cost ratio on flood control and irrigation was 1.2 to 1.

ANTICIPATED BENEFITS

General CHORPENING. Suppose I read the list of benefits as we estimate them at this time.

Mr. FORD. Go ahead, sir.

General CHORPENING. Flood control, $1,370,000; irrigation, $1,500,000; municipal water supply, $440,000; salinity repulsion, $500,000; power, $200,000.

Now, I would like to mention there that that $200,000 for power that we are taking credit for is only that portion of the power benefits against which the funds we are requesting will be applied to the power features. The remaining benefits for power would be claimed and included in the Bureau of Reclamation's request. That was to get a comparable cost-benefit ratio against the amount of funds we estimate to be expended by us.

As I explained a little while ago, we are spending nearly $2,000,000 for parts of the project that apply to the power phase.

Mr. FORD. Does the Bureau of Reclamation have any benefit to cost figures on their part of this project?

General CHORPENING. I am not familiar with how the Bureau of Reclamation sets up their projects and how they show them for presentation to Congress.

Mr. FORD. In the justifications on page 176, it is stated that the benefit-cost ratio is 1.5 to 1. Does that take in power, irrigation, and flood control?

General CHORPENING. That takes in the benefits that I have just given as against the average annual charges on the portion of the project which we are building, estimated at $57,870,000.

THURSDAY, JANUARY 24, 1952.

ISABELLA RESERVOIR, CALIF.

Mr. RABAUT. We will now take up the Isabella Reservoir in California. This is a project with a detailed estimate Federal cost of $20,000,000. The allotments to date have been $13,763,000. The amount appropriated in 1952 was $4,500,000. The tentative allocation for fiscal 1953 is $4,500,000. As of the close of fiscal 1952 this project will be 69 percent completed. The money requested for fiscal 1953 will bring the rate of completion to 91 percent.

General Chorpening, will you tell us of the progress on this project and what you intend to do with $4,500,000 during fiscal 1953.

General CHORPENING. The Isabella Reservoir in California is primarily a flood-control project. Progress has been satisfactory during the past year and our tentative allocation of $4,500,000 for 1953 will be primarily utilized on the construction of the main dam, the auxiliary dam and appurtenances. It will be noted that the cost-benefit ratio in this project is high, 1.7 to 1.

ACQUISITION OF LAND

Mr. RABAUT. What are your land estimates here?

General CHORPENING. A total acreage of 17,800 will be required for the project. Do you want it in detail, sir?

Mr. RABAUT. Have you the relative costs?

General CHORPENING. Yes, sir. Residential, 183 acres at $1,370 per acre; 17 acres of commercial, $8,600 per acre; rural, there is agricultural land, 5,000 acres at $183 per acre; and 8,600 acres of pasture land at $48.50 per acre.

Mr. RABAUT. Where is that commercial acreage located?

General CHORPENING. It is in the town where there are properties that had been built. The value is not only in the land itself, but also due to the fact that it is in a commercial area.

Mr. RABAUT. Is the high cost due to property improvements?

General CHORPENLNG. Yes, sir. Commercial land has a higher value because of the development.

Mr. RABAUT. Will you submit the names of the towns for the record?

General CHORPENING. Yes, sir.

The towns are Kernville and Isabella.

Mr. KERR. Will you repeat the statement you just made regarding the acreage and value of the agricultural land?

General CHORPENING. There were 5,000 acres at $183 per acre.

Mr. RABAUT. Does that include the improvements?

General CHORPENING. Yes, sir; we pay for the improvements, but the costs I have given you are for the land only. I would like to add, 4,000 acres of Government land at no cost are included in the total of 17,800 acres.

Mr. RABAUT. What relocations remain?

General CHORPENING. Would you like a detailed statement or would you like that for the record?

Mr. RABAUT. You can supply it for the record.

General CHORPENING. Yes, sir.

(Statement of relocations follows:)

RELOCATIONS REMAINING

The funds requested for fiscal year 1953 include the amount of $204,000 for the completion of the relocation of forest service facilities. The relocation work required after fiscal year 1953 involves relocating the Kernville-Weldon County Road which may be abandoned in lieu of being relocated.

BENEFIT-COST RATIO

Mr. FORD. General Chorpening, is the increase of price of $19,050,000 to $20,000,000 due to the engineering index price increase?

General CHORPENING. Yes, sir.

Mr. FORD. No other factors involved?

General CHORPENING. No, sir.

Mr. FORD. How do you account for the change in the benefit to cost ratio from 1.9 to 1.7?

General CHORPENING. That is accounted for in two ways. One, the estimated cost of the project has increased which served to reduce the benefit-cost ratio and I believe that a revaluation of the benefits has indicated they were slightly less than computed last year.

Mr. FORD. Last year, Colonel Potter testified that benefits were these: Irrigation 32 percent; and 2 percent for power downstream; and 66 percent for flood control. Do you have the dollar benefits this year?

General CHORPENING. Yes, sir, flood control is $1,067,000; irrigation, $504,000; power, $25,000; a total of $1,596,000.

Mr. FORD. You do not happen to have them broken down percentagewise?

General CHORPENING. We will supply it for the record.

(The material to be furnished follows:)

The percentage of benefits is as follows: Flood control, 66 percent; irrigation, 32 percent; and power, 2 percent.

(Discussion off the record.)

Mr. FORD. The question of acreage was gone into very carefully last year and I think some questions were asked a year ago in respect to that problem. Does that testimony cover the situation today?

General CHORPENING. Yes, sir.

Mr. FORD. What is the schedule of expenditures for this project in the fiscal year to come?

General CHORPENING. An appropriation of $1,737,000 in fiscal year 1954 will complete the project.

OPERATIONAL SCHEDULE

Mr. FORD. When will the project become operational?

General CHORPENING. It is scheduled for closure in January 1953. It will become operational at some period after that time as the closure proceeds, some time during 1953.

Mr. FORD. The additional expenditure after this coming fiscal year would not affect the operational aspects?

General CHORPENING. Yes, sir; it will. You will note that after 1953 there will still be required $1,017,000 to complete the main dam under a continuing contract with funds required after the fiscal year 1953. It could be placed in partial operation during fiscal year 1953 but not in full operation.

LOS ANGELES COUNTY DRAINAGE AREA, EXCLUDING WHITTIER NARROWS RESERVOIR, CALIF.

Mr. RABAUT. We will now turn to Los Angeles County drainage area, excluding Whittier Narrows Reservoir, Calif. This is a project with a total cost of $311,439,800. The allotments to date on this project are $108,681,000. In 1952 we appropriated $6,085,000 to this project and the tentative allocation for fiscal year 1953 is $7,000,000. This project, as of the close of June this year, will be 35 percent complete. The money requested will bring the rate of completion in 1953 to 37 percent. General, justify this request and give us a history of its progress to date.

General CHORPENING. This project is one of the most intensive local protection projects that we have. It affords protection to a large area of Los Angeles County which is very densely populated and an area which is subject to flash floods from the hills and mountains lying immediately adjacent to the cities and towns.

On the map that you have before you are shown all the features of the project and in colors, the work that has been done, the work being done with fiscal 1952 money, the work planned with 1953 money, and the work remaining after 1953. We work on this project in very close coordination with the local interests so that what we are doing conforms generally with what local interests believe are the important parts.

Mr. RABAUT. What is the name of the local interest group?

General CHORPENING. That is the Los Angeles County flood-control district. Considerable local cooperation is required in the matter of moving of bridges or replacement of bridges, relocation of highways and securing of land. Obviously, we must work in close cooperation with them. Progress has been satisfactory during this fiscal year within the funds alloted. The $7,000,000 being requested for fiscal year 1953 will be utilized on various units of the project as indicated in the justification sheets. The completion of the construction of the Los Angeles River upstream to the Sepulveda Basin is one of the highest priority units and $898,000 is requested for fiscal year 1953 and will be sufficient to complete the channel to Sepulveda Dam.

BENEFIT TO COST RATIO

Mr. RABAUT. What is the cost to benefit ratio?

General CHORPENING. The benefit to cost ratio is 2.37 to 1.

Mr. RABAUT. What is the reason for the increase in the estimated cost?

General CHORPENING. The cost-index increase.

Mr. RABAUT. Is it within the index percentage increase?

General CHORPENING. Yes sir. There is nearly $200,000,000 required to complete this project.

LOCAL CONTRIBUTIONS

Mr. RABAUT. What are the local interests' contributions to date and what are expected in the future?

General CHORPENING. The total estimated cost of the project to local interests for land acquisitions and relocations of highways and highway bridges is approximately $40,000,000. Up to this time, local interests have expended approximately $6,300,000 for lands and approximately $11,800,000 for highways and highway-bridge relocations, a total of $18,100,000.

In addition to that, local interests have constructed certain flood-control reservoirs, debris basins, and flood-control channels which are completed and cost approximately $100,000,000. They now have plans under way for additional supplementary improvements which will cost the local interests $76,000,000, or, in round figures, a total of $176,000,000.

Mr. RABAUT. What is the status of the definite project report?

General CHORPENING. Colonel Hiatt, will you make that statement?

Colonel HIATT. We are preparing a definite project report on each project unit. The units which are included in this year's program are in the following status:

For the Los Angeles River, Stewart, and Gray to Pacific Electric, unit No. 2; and Los Angeles River, Pacific Electric to Ocean, unit No. 1, the definite project report was approved in April 1950.

For the Rio Hondo units, the definite project report was approved in October 1950.

Mr. RABAUT. Are you working up a definite cost-benefit ratio on each project, too?

General CHORPENING. On each individual project?

Colonel HIATT. That will have to be furnished.

General CHORPENING. We will have to look into that, Mr. Rabaut. I believe that in the original survey, in the authorization and the re-evaluation for this year it was all considered as a comprehensive project. All of the units were considered together to provide the cost-benefit ratio of the whole.

Mr. RABAUT. Will you supply that information for the record about it?

General CHORPENING. Yes, sir.

(Statement referred to follows:)

The benefit-cost ratios for the individual units of the Los Angeles County drainage area project contained in the fiscal year 1953 budget have not been determined. The authorized portions of the comprehensive plan for flood control in Los Angeles County, as set forth in House Document 838, Seventy-sixth Con-

gress, third session, were recommended for authorization principally upon two major considerations, first, economic justification, and second, on sound hydraulic-engineering considerations. Obviously, the latter consideration led to the problem of improvement works in certain reaches of the river where economic justification, specifically within those reaches, was difficult to establish, but where, from a practical standpoint the improvements had to be made in order to carry the water, within bankful capacities, to the ocean.

CONTEMPLATED APPROPRIATION SCHEDULE

Mr. RABAUT. What is your presently contemplated appropriation schedule for the future of this project?

General CHORPENING. Fiscal 1954, $17,000,000; 1955, $20,000,000; 1956, $20,000,000; 1957, $20,000,000; 1958, $20,000,000; and after 1958, $98,758,800. We do not think it a practical matter to schedule it out by years after that time.

We work on a 6-year program, Mr. Rabaut.

Mr. KERR. How many of these reservoirs have you already completed? Everything appearing in black on your map has been completed; is that right?

General CHORPENING. Yes, sir; everything in black has been completed; the reservoirs and the work on the channels.

Those units shown in green we are working on at this time. The ones in red, we will work on with funds being requested in 1953.

Mr. KERR. How many reservoirs do you contemplate will be necessary.

General CHORPENING. There are three completed and Whittier Narrows which is not included in this particular project is now under construction.

Now, there is a little reservoir up in here that will come in the future and I believe that is all of the reservoirs that are involved. The rest is channel improvement and small debris basins to stop rock and sand from being washed down.

Could I make a further statement, going back to one of the questions of Mr. Rabaut asked on our proposed expenditure in future years?

These amounts that we give, not only on this project but on all projects, are based on the optimum rate for construction—what we could expend to build the project in the most economical manner. Of course, what the optimum rate is, and what the actual rate will be, are matters to consider in light of national economy by the Congress and budget. The actual rate may be somewhat different than the optimum.

RELOCATION OF BRIDGES

Mr. FORD. General, in your testimony last year there was some discussion about the responsibility for the Federal Government for the construction or reconstruction of bridges in this project. Is there any change in what was testified to last year?

General CHORPENING. To my knowledge there has not been. The matter as to who pays for relocation of bridges, utilities, and so forth is set out either in certain survey documents or by later laws. To my knowledge there has been no change in this since last June.

Mr. FORD. According to the justification this year, $932,000 is requested for, at least in part, the reconstruction of the Pacific Electric

Railway bridge and the Santa Anna branch. Does the Federal Government normally pay for such construction costs?

General CHORPENING. This, I believe, is a railway bridge and normally on local protection projects the Federal Government does pay for the relocation of railroad bridges and the local interests pay the costs for relocation of highway bridges.

Mr. FORD. Will you take a look at the statement made by Colonel Potter last year? It is at page 403.

General CHORPENING. Yes, sir.

Mr. FORD. In other words, according to that statement the Federal Government does not pay for any relocations or reconstructions of highway bridges but does assume some cost for railway bridges?

General CHORPENING. Yes sir.

(Discussion off the record.)

BENEFIT-TO-COST RATIO

Mr. FORD. The original survey documents, according to the testimony last year indicated the benefit-to-cost ratio was 1.55 to 1; in the hearings last year it was indicated to be 2.05 to 1; and this year, I understand, it is 2.37 to 1. What caused the increase in the last 12 months?

General CHORPENING. Revaluation of the benefits to be gained from the project. As we all know, the entire Los Angeles area is growing rapidly. The value of the land and of the improvements located in the protected areas is increasing so that the potential damage that would be caused by the floods to be prevented by these improvements is increasing annually.

INCREASE IN BENEFITS

Mr. FORD. The testimony last year at page 400 indicated the annual benefits were $27,000,000; in the 1953 justification the benefits are estimated to be $36,400,000. Could you furnish for the record some details about that increase? That is a fairly substantial increase in benefits?

General CHORPENING. Yes, sir. Actually it is based on a review, as I explained a minute ago. I can supply a statement for the record in a little more detail. Valuations of property and population I believe is what you desire.

Mr. FORD. The corps' figures showing the increase in benefits without a vast amount of mathematical computation would be helpful for the record because that is a rather substantial increase in dollars on an annual basis.

General CHORPENING. We can do that.

(Statement requested follows:)

During recent years no revaluation of the project benefits from the Los Angeles County drainage area project has been made. Benefits estimated to average $27,000,000 annually have been reported in justification data for recent years. A new determination of benefits for fiscal year 1953 has been made and definitely shows that increased cost and the rapid growth in the overflow area has increased the annual benefits to be derived from the project to $36,400,000. This increase is occasioned by the fact that the land which is subject to overflow was the least desirable and the last to be developed in the rapid growth of the Los Angeles metropolitan area. When the postwar housing boom came, this

land provided large areas of easily developed land. These areas are now largely built up and have a greatly increased damage potential. Benefits are increased because of the greater damages which can be prevented.

TYPE OF CONTRACT

Mr. FORD. Turning to page 181 of the justifications, the item designated as Los Angeles County drainage area, Owensmouth to Lankershim, unit No. 5; total cost $1,282,000; to complete a continuing contract for fiscal 1953; is that correct?

Mr. BOUSQUET. That contract will be awarded April 1952, and it will be a continuing contract; yes, sir.

Mr. FORD. The next item for which funds were requested in 1953 is on page 182, where the amount of $932,000 is set for Los Angeles River, Stewart, and Gray to Pacific Electric, No. 2 unit, stations 570 to 560. That is a lump sum for that particular phase of the project.

General CHORPENING. Yes, sir.

Mr. FORD. Under a continuing contract.

General CHORPENING. No, sir.

Mr. FORD. But it is a new part of the over-all project?

General CHORPENING. That is correct

PROGRESS OF WORK

Mr. FORD. How do you decide what item you are going to undertake in a proposed fiscal year's appropriations?

General CHORPENING. That is decided by the discussions in the field between our district engineer and his staff and the Los Angeles County flood control district, both having in mind what part should be done next to get the greatest benefit and further what fits in best to the work that has previously been done.

Mr. FORD. I think the committee requested earlier figures showing benefit-to-cost ratio for various parts of the project.

General CHORPENING. That was discussed actually as a single local protection project which this is. I doubt that we break it down in that fashion. All our local protection projects have a unit here and a portion there but it all goes to make a whole which is contemplated in the survey document. Each portion is a component part of the over-all project and represents continuation of construction. To pull out a portion and say, this has a cost-benefit ratio as against any other portion is rather difficult because it takes all parts to make the whole which functions as an over-all flood-control project.

The units that we break it down into here are usually units that we establish as contract parts that will fit in well to the letting of a contract or getting a particular bridge or section of the channel improved which, of course, has to tie in with the funds that we may have available or we expect to have available.

Mr. FORD. So it is possible that a portion of the project to be built in a particular year might have a lesser benefit than some part of the project which you are postponing temporarily?

General CHORPENING. That is correct; yes, sir; and in that country where today you have little activity or population, in a year or two you may have a very considerable population and activity so the cost-

benefit ratios—as indicated here this year as against last—I would think will vary considerably in individual parts if you could compare them with any accuracy.

LOS ANGELES RIVER, PACIFIC ELECTRIC TO OCEAN UNIT NO. 1

Mr. FORD. The justifications on page 182 indicate that the corps is requesting $1,600,000 for Los Angeles River, Pacific Electric to Ocean Unit No. 1. That would be the initiation of a new part of the project.

General CHORPENING. That is going ahead with a portion of the project that has already been under way, the Los Angeles River channel. It is actually the initiation of construction of a section of the channel upstream from the ocean to the Seventh Street, near Long Beach, Calif.

Mr. FORD. Apparently it would be the initiation of a new continuing contract.

General CHORPENING. That is correct; but this particular portion of the project has been becoming more critical due to subsidence occurring in that vicinity. That subsidence has served to reduce the channel capacity of the stream and it is highly essential that that work be done. We, as well as the local interests, believe it to be one of the most critical items in the over-all project at this time.

Mr. FORD. According to the justifications in reference to this part of the contract, there is a statement that there is a grave danger a large flood would break into the inner harbor and silt tie-up as in 1916. Were these recent floods out there the kind that would bring about that silt?

General CHORPENING. If it had continued to rain a little bit longer, it could have been.

Mr. FORD. But did not.

General CHORPENING. Based on only preliminary information it did not.

OTHER CONTINUING PROJECTS

Mr. FORD. The justifications on page 182, also, indicate you are undertaking two other new continuing contracts. What are the justifications for the initiation of these new continuing contracts?

General CHORPENING. As you will note from the map, the channel leading from the Los Angeles River which is the Rio Hondo up to the Whittier Narrows Reservoir—this work we have under discussion is shown in red. Work has been completed on the very small portion of that and the need this year will continue a distance of, perhaps, 2 miles further. What we are trying to do is to carry that work along at a rate to complete it by the time Whitier Narrows is functioning.

Mr. FORD. What do the Corps of Engineers request this year for the project?

General CHORPENING. $7,415,000 within ceiling; $1,600,000 over ceiling, a total of $9,015,000.

Mr. FORD. And the Budget did approve $7,000,000 for the coming fiscal year, 1953?

General CHORPENING. Yes, sir.

Mr. FORD. I believe that is all. Were you going to give a statement on the flood itself?

Mr. RABAUT. After we have finished the California projects.

Mr. KERR. General, will the work you are doing now also protect any additional increase in population that may occur in the Los Angeles areas?

General CHORPENING. Yes, sir. It will take care of the type of floods for which we set it up and, furthermore, as that population increases, of course, the benefits to be added from this project will increase.

Mr. KERR. Yes. It will in other words take care of the situation for which it is intended?

General CHORPENING. Yes, sir. I would like to say that is to take care of the further development and increase in population in the areas that this is intended to cover. If they go out into other areas.

PINE FLAT RESERVOIR, CALIF.

General CHORPENING. The next project is Pine Flat Reservoir in California with a total estimated cost of $51,121,000; allotments to date are $30,165,000. The 1952 appropriation is $8,000,000; and the request for fiscal 1953 is $9,500,000.

Mr. KERR. Justify this appropriation request.

General CHORPENING. This is a multiple-purpose dam on which good progress has been made during the past year and with the funds that we are requesting in fiscal 1953, the major portion will be utilized on the continuing contract for the construction of the dam and appurtenences. An amount of $1,550,000 will be applied to channel improvements on the lower Kings River. The benefit-to-cost ratio on this project is 2.0 to 1.

Mr. KERR. You have an allotment of $30,165,000 on this project?

General CHORPENING. Yes, sir.

Mr. KERR. How much will it cost to complete the project?

General CHORPENING. Assuming we receive an allocation of $9,500,000 this year there will be required to complete it $11,456,000.

Mr. KERR. What percentage will you complete with the amount of money available?

General CHORPENING. The project will be 59 percent complete with the funds now available.

Mr. FORD. Has there been any revision in the benefit-to-cost ratio on this project generally?

General CHORPENING. No change since last year.

Mr. FORD. What is the status of the DPR?

General CHORPENING. Detailed plans for the prosecution of work on all construction and relocation features connected with the dam and reservoir will be completed by the end of the year 1952 with the exception of occasional construction drawings which will be prepared as the need for additional detail arises. Plans for the channel improvement on the lower Kings River will be prepared during fiscal 1953.

Mr. FORD. According to the figures last year and this year, there has been no increase in the total project cost.

General CHORPENING. That is correct, sir.

Mr. FORD. What is the explanation of that?

General CHORPENING. In this project we find that our estimates of cost of last year were sufficiently accurate and the contracts under way or awarded are of such a nature that no increase in estimated cost was essential.

BENEFITS DERIVED

Mr. FORD. What is the status of breakdown of benefits. Last year it was testified that flood control was $2,399,000 or 47 perecent; water services $2,656,000 or 52 percent; future power $77,000 or 1 percent.

General CHORPENING. There has been no change. I would like to make a statement in connection with that now. And this is applicable to most, if not all, of these California projects. These benefit estimates that we are giving the committee are on a most conservative basis. Actually, the current price level of real estate and other improvements is considerably higher than the price level that we are using in considering the benefits. We are always reluctant to go up to these higher values in our computation of benefits because we may be in a transitory period. But these benefits are based on a price level which is only 25 percent higher than that which prevailed in the period between 1926 and 1930 whereas everybody knows that the prevailing price level on real estate and improvements is much higher than that.

LOCAL CONTRIBUTIONS

Mr. FORD. At page 408 of the hearings last year, a statement was inserted in the record with reference to the local-interest contribution. Apparently, negotiations were going on at that time as to what the contributions should be. What is the status of that?

General CHORPENING. Negotiations are still under way. There has been no finalization of that situation.

Mr. FORD. Who is handling the negotiations for the Federal Government?

General CHORPENING. The Bureau of Reclamation primarily. Of course, we must sit in on these negotiations because we are the builders and will be the operators of the project.

Mr. FORD. Is there any date when these negotiations might be conceivably completed?

General CHORPENING. I wish that I could give you a date, but I cannot, sir.

Mr. FORD. Is it important to have these negotiations completed prior to the completion of the contract?

General CHORPENING. I think it is important to have that done so that a project when completed can be immediately placed into utilization but I believe that last year there was quite a full discussion on the matters involved with these negotiations.

(Discussion off the record.)

Mr. FORD. When is the scheduled completion of this part contemplated?

General CHORPENING. In 1954.

Mr. FORD. Fiscal year 1954.

General CHORPENING. Yes, sir. In other words, we would ask for $11,456,000 in fiscal 1954 if we received the amount being requested this year.

Mr. FORD. In other words, these negotiations between the Bureau of Reclamation and the land owners affected and the payment should be completed some time prior to the scheduled completion of the project in fiscal 1954.

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General CHORPENING. That is correct, sir. The project, of course, can operate for the strictly flood-control features as soon as we get it operable and completed. The part involved here is only the irrigation.

Mr. FORD. Yes. But the project was authorized and the money appropriated on the basis that it is a multiple-purpose project.

General CHORPENING. Yes sir.

Mr. FORD. So unless we do start operating it on a full basis the reason for the authorization and expenditures is not taken care of.

General CHORPENING. Not being fully utilized.

Mr. FORD. Has any progress been made in the negotiations?

General CHORPENING. I do not know whether they are any closer to a settlement now than they were a year ago.

(Discussion off the record.)

Mr. FORD. How long have negotiations been going on?

General CHORPENING. I think about 3 years.

Mr. FORD. It would be important that the Congress should not appropriate any more money in fiscal 1954 until these negotiations are completed.

General CHORPENING. Of course, we would lose flood-control benefits if that were not done——

Mr. FORD. That is no excuse for inability of an agency of the Federal Government to sit down and resolve a problem with responsible citizens in an area. From what I know of the situation it is just a case of dilatory tactics and might be a situation where the local interests would have to accept or else. It is not a healthy situation. Congress should not tolerate such a condition.

General CHORPENING. Well, you may be assured, Mr. Ford, that the Corps of Engineers through its various offices will use every means at its disposal to reach a conclusion of this agreement. But I think you understand that the agreement would not be with us but with another agency of Government.

IRRIGATION BENEFITS

Mr. RABAUT. What is the nature of the water-conservation benefit claimed for this project?

General CHORPENING. That is the irrigation part of the project, with average annual benefits estimated at $2,656,000.

Mr. RABAUT. How much is that percentagewise?

General CHORPENING. Fifty-two percent, sir.

DEVELOPMENT OF POWER

Mr. RABAUT. What are the plans for the future development of power here?

General CHORPENING. The power development here is contemplated by a local group, the Fresno irrigation district, I believe. I am advised that the Federal Power Commission has recently granted to the Fresno irrigation district a temporary permit for plans for a power plant.

Colonel HIATT. As I understand it, sir, the local interests—this Fresno irrigation district—has received a temporary permit from the Federal Power Commission issued about a year ago to come up with plans and studies on how they will develop the power and that

the Federal Power Commission will study these plans as submitted and will decide whether or not to issue a license within the next year. The provisions in the dam have been made for the development of that power.

Mr. FORD. Is the definite project report completed?

General CHORPENING. The definite project report is complete; yes, sir.

SAN ANTONIO RESERVOIR, CALIF.

Mr. RABAUT. This project is known as the San Antonio Reservoir, Calif. Total estimated Federal cost $7,720,000; allotments to date total $1,800,000; The appropriation in 1952 of $1,000,000, the tentative allocation for fiscal 1953 is $3,000,000. The project, as at the close of 1952, will be 23 percent complete and the money requested in 1953 will bring it to 62 percent of completion.

We will be glad to have a general statement on this project.

General CHORPENING. This is a flood control only project which was essentially started with the 1952 appropriation, there having been very little work done prior to that time. The funds requested for fiscal 1953 will be primarily used on the construction of the dam outlet works and the dam embankment and spillway, both under continuing contracts. The benefit-cost ratio is 1.10 to 1.

INCREASE IN COST

Mr. RABAUT. What is the reason for the approximately 10 percent increase in the estimated cost?

General CHORPENING. This project was authorized in 1938 at an estimated cost of $5,400,000. When I learned that I was amazed that the estimated cost is not considerably more. However, it appears that our estimate of $7,720,000 is sound. The difference between the estimate of last year and this year can be explained essentially on price-level changes although we have had to make a number of changes in our lands and real estate here. This being the first year we have got into this project we found these changes were essential.

(Discussion off the record.)

General CHORPENING. Actually, as I say, we feel that in the over-all we have not been realistic in the past in getting our estimates where they belong. The changes between last year and this year, actually, are as follows:

Construction last year estimated $6,175,000; and we now estimate $5,123,000. Although our construction estimate has gone down, our relocations were estimated at $300,000 last year and they are now estimated at $950,000. They have gone up appreciably. Lands were estimated at $290,000 and are now estimated at $554,000. So, as against a decrease in construction cost, as we now see it, we have had very considerable increases in relocations which have developed this year when we got in there and began to get into construction.

(Discussion off the record.)

Mr. RABAUT. What is the reason for the big increase in relocations?

General CHORPENING. Actually, last year when the estimate was made, the information that we had was not sufficiently complete to indicate the extent of the relocations that were required.

Mr. RABAUT. Have the negotiations been completed now?

General CHORPENING. I do not think the negotiations on all of them are completed at this time. I can check on that for the record.

Mr. RABAUT. Do you think that might result in an additional increase?

General CHORPENING. I do not think so.

Mr. RABAUT. What was the basis for the decrease in construction cost?

General CHORPENING. The basis for decrease in construction costs is a very close recheck of our previous estimates and based on what we know about present costs we found we had more in there than we required.

Mr. RABAUT. Is the decrease in costs really based on actual work?

General CHORPENING. Not actual work as yet because we just got funds on this project for fiscal year 1952 the first of November.

(Discussion off the record.)

Mr. RABAUT. We feel that this project, because of its cost variations, should merit your most careful scrutiny.

General CHORPENING. And it will receive it, sir.

(Discussion off the record.)

Mr. RABAUT. How do you explain the discrepancy in the completion percentage estimated last year to be 14 percent at the end of 1952 and now estimated to be 23 percent even with the increased cost?

General CHORPENING. We will have to put an explanation of that in the record, sir. I do not know.

(The information requested is as follows:)

The percentage for last year's estimate of completion through fiscal year 1952 was shown in error at 14 percent. The estimate now shown, 23 percent, is correct.

Mr. RABAUT. Why has no construction been started as yet on this project?

General CHORPENING. Our funds for fiscal 1952 were not received until November 1951, and that is only a little over 2 months ago.

Mr. RABAUT. How then can the project be 23 percent complete?

General CHORPENING. These percentages are based on the percentage of the funds that have been appropriated and also represents the percentage as of June 30, 1952.

Mr. RABAUT. What contracts will you initiate in 1952?

Mr. BOUSQUET. There will be a contract initiated for relocation of utilities in April 1952; a contract for the outlet-works conduit in April 1952 and for the highway relocations in April 1952.

Mr. RABAUT. Furnish for the record your specific relocation costs and the status of the negotiations on each one.

General CHORPENING. Yes, sir.

(Relocation costs are as follows:)

Relocations, San Antonio Reservoir

A breakdown of the relocations for San Antonio Reservoir and the status of the negotiations covering these relocations is as follows:

Item	Remarks	Present estimated cost
Highways:		
Los Angeles County road (Camp Baldy).	Negotiations have been initiated with the county relative to relocation of the road and the county has authorized the closing of the existing portions which interfere with the first phase of the construction of the San Antonio Dam.	$145,000
San Bernardino County road	Negotiation with the County of San Bernardino relative to the relocation of the county roads has been initiated. Studies are currently being made for the relocation. The county is now making revisions necessary to satisfy the Corps of Engineers' requirements and to enable continuation of negotiation for a mutually approved contract.	123,000
Total, highways		268,000
Utilities:		
Power lines:		
Los Angeles Department of Water and Power.	Recommendation for the relocation of the department's high-voltage transmission lines has been established and field surveys have been initiated by the department upon oral assurance that the Government would negotiate a relocation contract providing for reimbursement of cost entailed thereby.	228,000
Southern California Edison Co.	The company has initiated studies for relocation pending negotiation for a more or less mutually satisfied contractual obligation.	21,000
Total, power lines		249,000
Telephone lines: Associated Telephone Co.	The company has initiated studies for relocation pending negotiation for a more or less satisfied contractual obligation.	2,000
U. S. Forest Service	No negotiation started	1,000
	Total, telephone lines	3,000
Water works: San Antonio Water Co.	Several conferences have been held and the San Antonio Water Works has been assured that any money expended relative to the relocations of its facilities would be on reimbursable basis and terms thereon would be contained in the relocation agreement to be mutually approved. The architect engineers for the company are proceeding with surveys, plans, and specifications.	129,000
City of Upland Water Department.	The major report has been prepared by the city and submitted for review together with estimates of cost of relocations for the city's facilities. On Jan. 3, 1952, the Los Angeles district office officially approved the plan submitted and gave the city notice to proceed and informed them that costs incurred relative to the relocation of their facilities would be reimbursed.	202,000
Canon Water Co. and North Palomares Irrigation Co.	These are interlocking companies and subject to the same negotiations. Several conferences have been held and these companies have been assured that money expended relative to the relocations of their facilities would be on a reimbursable basis and terms thereon would be contained in the relocation agreement to be mutually approved. The architect engineers for the companies are proceeding with surveys, plans, and specifications.	64,000
Pomona Valley Protective Association.	No negotiations have been entered into	40,000
Total, water works		435,000
Grand total, relocations		955,000

COST VARIATIONS

Mr. FORD. General Chorpening, as I recall the previous testimony, there had been a substantial increase in the relocation costs and the land-acquisition costs.

General CHORPENING. That is correct, sir.

Mr. FORD. And a substantial decrease in the engineering and construction costs?

General CHORPENING. Not as great a decrease as there was an increase in the other two. That decrease in the estimated construction cost is $325,000 against an estimate last year of $6,175,000.

Mr. FORD. On the bottom of page 189 of the justifications it indicates that the acquision of land easements and rights-of-way has been initiated and that no construction has been started. It leads me to wonder if in the instances where you have actually gone ahead and made some starts the costs have gone up and where you have not started in work your estimates have gone down. Is it possible that when you actually start construction your new cost estimate will not be as favorable as you have indicated this morning?

General CHORPENING. In this instance the facts are there. They did increase.

Mr. FORD. You can see the problem. As we sit on this side of the table, you have a case where your costs have gone up where you are actually doing the work, and the costs have gone down where it is still in the estimate stage. In other words, just how firm are your entire estimates for construction?

General CHORPENING. Well, we are a lot firmer than we were last year because we have now actively gotten into construction. Any estimate based on features when it is 3, 4, or 5 years away obviously cannot be as firm as one where you are close to the time when you are going to do the construction.

TENTATIVE COMPLETION DATE

Mr. FORD. What is the estimated completion schedule?

General CHORPENING. To be completed during 1954. We propose to ask for $2,920,000 for fiscal 1954 for completion.

BENEFIT-TO-COST RATIO

Mr. FORD. The benefit-to-cost ratio last year was 1.3 to 1 and now 1.1 to 1. I presume that is partly explained by the increased cost of the project?

General CHORPENING. Yes, sir.

Mr. FORD. However, throughout the justifications on this project there is repeated emphasis on the tremendous increase in land values, and so forth, in the area affected. If that were the case, wouldn't you have substantial increase in benefits?

General CHORPENING. I think that, as I said before, this is another instance where we have not as yet in our benefits taken full credit for the increases in value of property to be protected.

(Discussion off the record.)

PROJECT CERTIFIED FOR NATIONAL DEFENSE

Mr. FORD. What would be the harm to the project if funds were not given for the continuation of the contract on the dam embankment and spillway?

General CHORPENING. In answer to your question, as has been stated, we contemplate entering into some continuing contracts this year. If no funds were available in fiscal 1953 to continue with these contracts, there would be a close-out charge with these contractors.

Mr. FORD. I was referring to the contract which you anticipate starting in fiscal 1953, the one for the dam and embankment spillway.

General CHORPENING. I can see where that would create undue difficulties with the other contracts that had been let and would presumably proceed to completion. This project is one of those certified by the President in 1951 for construction.

Mr. FORD. Certified as essential to national defense?

General CHORPENING. Yes, sir.

WHITTIER NARROWS RESERVOIR, CALIF.

General CHORPENING. The next project is Whittier Narrows Reservoir with a total estimated cost of $36,320,000; allotments to date $16,194,100; tentative allocation for fiscal 1953, $7,000,000.

Mr. KERR. Please justify the $7,000,000.

General CHORPENING. With the $7,000,000 requested for fiscal 1953, we propose to place the major part of it—$2,500,000—on the dam embankment, central section, and $1,537,000 on the acquisition of lands and easements.

This project is a part of the Los Angeles flood-control system. Its cost-benefit ratio is 1.16 to 1. Progress during the past year has been or is satisfactory in accordance with the appropriations made.

We will also proceed with the relocations, diversion channel, and other items which must go along concurrently with the major construction work.

Mr. RABAUT. What continuing contracts are in effect on this project?

Mr. BOUSQUET. There is a continuing project for the dam embankment, east section, and the spillway which was awarded on March 23, 1950. That is the only continuing contract that is in effect at this time.

Mr. RABAUT. Is the definite project report complete?

(The information requested follows:)

The definite project studies on Whittier Narrows has been completed.

General CHORPENING. I am sure all of our definite project studies have been completed long since. This project has been under way now for some time.

BENEFIT-TO-COST RATIO

Mr. FORD. Is there any change in the cost ratio on this project from the last year it was given?

General CHORPENING. Slightly less than last year.

Mr. FORD. There is no change in the cost of this project. How do you account for the decrease in benefit-to-cost ratio?

General CHORPENING. A slight decrease downward in the benefits.

Mr. FORD. At the same time we probably had an increase in land values and so forth in that area?

General CHORPENING. That is correct. The same remarks as I made a little while ago on benefits apply as near as I can tell to all these California projects. And, unless I find some real reason for not doing so, I am going to insist that we get a more nearly up-to-date valuation of benefits before next year. I think we can rightly take some additional benefits in the projects.

Mr. FORD. Is there any specific explanation of why there has been no increase in cost in this project?

General CHORPENING. Actually, there has been no increase in cost after we have carefully checked over all our estimates. There have been some changes in the allocations. Now, actual price-level changes which applied to the construction parts of the project amount to something over $1,000,000. But we now find our costs of acquisition of lands and relocations are sufficiently less; so, it balances the price increase.

Mr. FORD. There was an increase in construction estimates but a decrease in land acquisitions and relocations.

General CHORPENING. That is correct, sir. This is just the reverse of the situation that existed in San Antonio.

CONDEMNATION PROCEEDINGS

Mr. FORD. Last year there was a discussion in the record about condemnation proceedings. Did you actually go through condemnation proceedings in this instance?

General CHORPENING. We went ahead with the condemnation proceedings as described by Colonel Potter last year of the entire area, and this change in costs of the lands is apparently due to some results that we have had on these condemnations.

Mr. FORD. Wouldn't it be a good criteria then to have condemnation proceedings in other cases?

General CHORPENING. No, sir. I do not believe that we should go into condemnation proceedings as a policy, Mr. Ford, except in instances where we are just unable to get together with the landowners. Condemnation always sets up a certain amount of hostility on the part of the people. We have no hesitation in entering into condemnation if we feel that the interests of the Government are not being served otherwise.

(Discussion off the record.)

ESTIMATED EXPENDITURES, 1953–54

Mr. FORD. Last year the schedule of expenditures was indicated as follows for 1953 fiscal year, $12,000,000; 1954, $7,625,900. According to the justifications on page 191, the budget includes for fiscal 1953 $7,000,000. How do you account for that discrepancy? What did you ask the Budget for?

General CHORPENING. $7,000,000.

Mr. FORD. Do you still expect to finish the project within the contemplated time as indicated last year?

General CHORPENING. Perhaps I could answer that by saying we expect to ask $7,000,000 in 1954 and $6,125,000 in 1955 for completion. We now have the closure date scheduled for 1954, and I think what has happened here is that we extended the period of construction over another year than what was contemplated last year.

Mr. FORD. Would that indicate the urgency for the project has somewhat decreased?

General CHORPENING. I do not think that would indicate that. It would indicate that we have analyzed the proper construction schedule and that the way we have it set up now is more reasonable and, I hope, more economical than the way previously considered.

Mr. FORD. As I look at the justification, in most instances, the funds requested for 1953 are for the initiation of new continuing contracts.

General CHORPENING. That is correct; yes, sir.

Mr. FORD. What would be the result if funds were not allocated or appropriated for the initiation of these new continuing contracts?

General CHORPENING. I think the principal result would be that the Federal Government would have expended $16,194,000, nearly half the amount required for the project, for which nothing would be received by anybody; and, in fact, we would have structures there some of which would cost us money to maintain.

(Discussion off the record.)

CALIFORNIA FLOOD

Mr. RABAUT. This completes the projects in California. Please give us a summary of the recent flood out there.

General CHORPENING. I have a statement here that we just received from our South Pacific Division in San Francisco. It is a little over a page, and I believe that it presents a good picture of the situation.

Mr. RABAUT. All right, we will be glad to hear it.

General CHORPENING. I would like to add that this is, of course, a very quick preliminary statement, but it gives some idea to the committee of what happened there.

In the recent 4-day period, 15 to 18 January, two severe storms centered in the Los Angeles County drainage area, California, and caused large property damage and the loss of 11 lives. The property damage and loss of life would have been considerably greater if the Federal flood-control project had not been at its present state of completion. In both storms, rainfall and runoff were comparatively greater in the valley area than in the mountains except in the area on Los Angeles River upstream from Sepulveda Reservoir and on Pacoima Wash, where channel improvements have not yet been constructed. The operation of the flood-control reservoirs to Tujunga Wash, Ballona Creek, Compton Creek, and other completed channel improvements confined all damage to that caused by runoff from streets and foothills, failure or lack of storm drains and ponding in low inadequately drained interior areas. Completed channels carried all floodwaters reaching them, utilizing only a part of their capacity.

The peak inflows into Sepulveda and Santa Fe Reservoirs of 13,600 cubic feet per second and 3,500 cubic feet per second, respectively, were reduced to outflows of 6,400 cubic feet per second and 970 cubic feet per second, respectively. The peak inflow of Hansen Reservoir

of 2,700 cubic feet per second was held with no release during the critical period. Had the peak inflow of Sepulveda Reservoir been uncontrolled and superimposed on the high runoff in the urban area, the flood discharge would have exceeded the capacity of the unimproved reach of Los Angeles River from Sepulveda Dam to Van Nuys Boulevard, seriously damaging approximately 1,000 homes in the lower San Fernandino Valley. Lack of control of the inflow into Hansen Reservoir would have added to the damage in the area of San Fernandino Valley between Hansen Dam and the Los Angeles River by the destruction of highway and railroad bridges and homes similar to the damage caused by the 1938 flood. The lack of control of flood flows in the San Gabriel River by Santa Fe Dam would have destroyed important road and railroad crossings.

In lower Los Angeles River, where serious ground subsidence has occurred in recent years, a peak discharge of 56,000 cubic feet per second occurred at Pacific Coast Highway. Had the uncontrolled peaks of the reservoir been discharged into the channels, the peak discharge in lower Los Angeles River downstream from the end of completed construction would have exceeded the capacity of the channel and would have inundated low areas to the north of Long Beach and Long Beach Harbor area. If Ballona Creek and Compton Creek channel had not been completed, serious damage to homes and industrial establishments would have occurred in those areas. It is estimated that the operation of these units of the comprehensive plan already completed reduced the damage caused by the flood by more than $2,000,000 and held the loss of life to about one-fifth of what otherwise would have occurred. If the entire Federal project had been completed, damage on the upper Los Angeles River, Pecoima, Eaton, Arcadia, and Sierra Madre Washes, and the Coastal Plain in the vicinity of lower San Gabriel River would have been greatly reduced.

Had the storm pattern more closely followed the normal pattern of general storms in this area wherein heavy rainfall occurs in the mountain areas, or had the duration and intensity of the storm approached those experienced in the past, the damage prevented by the existing work would have been several times that indicated.

(Discussion off the record.)

Mr. RABAUT. Could you make any comparison between this type of flood and the Kansas flood?

General CHORPENING. No sir. Not as yet. The topographical conditions are quite different.

Mr. RABAUT. What was the extent of the damage moneywise to your preliminary estimates?

General CHORPENING. We cannot give you that, sir, at this moment. There was something said about damages prevented, but this is too soon for an accurate statement.

Mr. RABAUT. Please supply it for the record.

General CHORPENING. We will do that.

(Statement referred to follows:)

It is estimated that the damages resulting from the recent floods in southern California will amount to approximately $4,500,000 Additional damages due to the storms such as landslides not related to floodwaters is estimated at $2,500,000, making up a total of approximately $7,000,000 in damages due to storms and floodwaters.

RED RIVER LEVEES AND BANK STABILIZATION

Mr. RABAUT. General, would you insert in the record a statement as to the present status of the definite project report on the Red River levee and bank stabilization project?

General CHORPENING. Yes, sir.

(The information requested is as follows:)

DEFINITE PROJECT STUDIES—RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM

Levees.—The definite project studies for the levee portion of the project have been completed.

Bank stabilization.—Due to the shifting of the channel the points of attack on the river banks is of an unpredictable nature. Preparation of a project report on bank stabilization work considerably in advance of construction is, therefore, not considered desirable. The work of the bank stabilization is being accomplished at locations on the basis of urgency and prior to proceeding with the work, studies of the scope used for preparation of the definite project report are undertaken to determine the nature and extent of the work required to arrest the erosion.

MANSFIELD HOLLOW RESERVOIR, CONN.

Mr. RABAUT. We will now turn to the Mansfield Hollow Reservoir, Conn. This is a project with a total estimated Federal cost of $7,550,000. The allotments today are in the sum of $7,010,000. The 1952 appropriation was $3 million, and the tentative allocation for 1953 is $540,000, which completes the project.

Why do you need the $540,000 for this project?

General CHORPENING. You will note, sir, that there has been no change in the cost estimate from that submitted to the committee last year. The funds requested for 1953 are for the purposes set forth in the justification sheet to complete utility relocations, some seepage corrective measures on the structure and reservoir clearing. That is all.

Mr. RABAUT. Will the funds requested herein really complete this project?

General CHORPENING. Yes, sir.

Mr. FORD. This proposed appropriation clears this project off the books in toto?

General CHORPENING. As far as construction is concerned. Of course, they will require funds annually for the operation and maintenance of the project.

BENEFIT-TO-COST RATIO

Mr. FORD. The ratio last year of benefit to cost was 1.1 to 1. This year it is 1.16 to 1, is that right? What causes that increase of six-hundredths?

General CHORPENING. There has been a reevaluation of benefits which are slightly greater this year. There has been no increase in the cost.

CENTRAL AND SOUTHERN FLORIDA (FIRST PHASE)

Mr. RABAUT. We will turn to the next project, "Central and southern Florida (first phase)." This is a project with a total estimated Federal cost of $68,878,000. The allotments today are in the sum of

$13,800,000. The amount appropriated in 1952 was $6 million, and the tentative allocation for fiscal 1953 is $5 million.

PERCENT COMPLETED

This project as of the close of fiscal year 1952 will be 20 percent complete, and the money requested for 1953 will bring it to 27 percent of completion.

General, will you please make a statement on the status of the project and the necessity for this $5 million in 1953?

General CHORPENING. This is quite a complicated and comprehensive project in Florida for the over-all purposes of flood control and water conservation in a flat area of the country which is subject to severe hurricanes and torrential downpours.

Not only is it being built to prevent flood damages but to conserve and protect widespread agricultural areas.

I may say that due to the topography, which is extremely flat, it is one of the most difficult projects from the standpoint of hydrology problems that the Corps of Engineers has ever undertaken.

The progress has been satisfactory. It will be noted by the committee that in the justification sheets the work is broken down into a great number of units, levees, canals, pumping stations and spillways.

Our plan of construction, as will be noted from the maps, is to complete that portion of the project which will give the maximum protection to cities first, in other words, to get the most good done, to be followed up later by such works as will be complementary to those levees and canals, and further levees for the protection of the agricultural lands and the establishment of the conservation portions of the project.

Of the amount requested for fiscal year 1953, which is $5 million, it will be noted that that is allocated to 10 different portions of the project. They are shown on the maps that you have in colors indicating the status of the work.

The cost-benefit ratio of this project, as it is presently estimated, is 2.26 to 1.

Mr. RABAUT. What was the particular work performed on this project this year?

General CHORPENING. The work that was performed as is proposed for the balance of this year is shown in green.

LOCAL CONTRIBUTIONS

Mr. RABAUT. What are the local contributions?

General CHORPENING. Local interests are contributing in lands and in funds quite considerably to this.

We, as I explained in connection with the Los Angeles project this morning, work in very close cooperation with local interests.

Mr. RABAUT. Give me a definition of your term, "quite considerably." How much are they contributing?

General CHORPENING. Fifteen percent of the construction costs plus lands. I believe it amounts approximately to something over 30 percent of the over-all cost, in other words, approximately 70 percent Federal, 30 percent local.

Mr. RABAUT. It is true, is it not, that the protection afforded by this project has done much to encourage the use of certain lands in Florida and indirectly has brought a pretty good return to the Government in the form of taxes from business enterprises?

General CHORPENING. I am sure that is true. As we proceed with the project it will become even more true.

INCREASED COSTS

Mr. RABAUT. What is the reason for the increase in the estimated cost from about $58 million in 1952 to $69 million now?

General CHORPENING. In reviewing the history of this project the estimated cost in the survey document was $58,129,000. Had we applied the straight cost index to it we would have a $90 million estimated cost at this time.

What has happened on this project is that we have received on the work that has been advertised to date most favorable bids. We have awarded contracts on most of the work based on more favorable bids than we had expected to receive.

That accounts for our not having increased the estimated cost in accordance with the rise of the ENR cost index to the amount we might have.

However, we have also encountered as we have gone along with the detailed design of the project, and as we have gained experience from hurricanes that have happened, some difficulties. We have had to make some modifications of our designs on the construction of levees, to so build them that they are sufficiently strong to be certain that they will not be damaged by hurricane forces and wave-wash water. That is essentially it.

STATUS OF PROGRESS REPORT

Mr. RABAUT. Is the definite project report complete?

General CHORPENING. I would say it is essentially complete. It was in our office for some time. We made certain modifications therein and had certain correspondence with the field. The hydrology portion of it we approved in December. The complete report has not yet been approved.

BENEFIT-COST RATIO

Mr. RABAUT. How do you explain the increase in the benefit-to-cost ratio?

General CHORPENING. On a reevaluation of the benefits that are to be derived from the project. It goes back to the earlier discussion of the increase in agricultural benefits that are foreseen from this project.

Mr. RABAUT. The development of this project and the studies that have been made upon it was explained to a very great extent last year by Colonel Potter?

General CHORPENING. Yes, sir.

CHANGES IN PROGRAM

Mr. RABAUT. Have you run into any conditions that call for substantial changes in the program as of last year?

General CHORPENING. We, as I said, have had to make some engineering modifications of our levees. Likewise, the matter of the use of the canals, the placement of the canals, the placement of the pumps and spillways has been receiving very intense study, and due to the most difficult hydrology conditions existing we have had to make some changes. I think there are going to be some more changes required from our original thinking.

Mr. RABAUT. Will these changes result in savings of money?

General CHORPENING. I do not anticipate that any of the changes made will result in lowering the estimate as we now have it, sir.

Mr. RABAUT. What about them going the other way?

General CHORPENING. I would like to think they would not. But again, sir, I sincerely hope we can keep within the estimate.

REVISIONS OF COSTS

Mr. RABAUT. Members of Congress have approached me about the increased costs of these projects.

Of late years we have had general increases in costs but over and above such increases we have been faced with one revision after another in the costs of these projects. They are way out of line with the original estimate.

We have so much money invested in some partially completed projects that there is no other choice than to go on with them. There is a very serious temptation at times to abandon other partially completed projects because of these increased costs. I have told them that the very things they were talking about, this committee has been trying to do for years.

It is not easy to sit on this side of the table, General, and consider these projects. Our task is a difficult one for we are faced with a large appropriation bill, and a mounting Federal deficit. The task is not helped any by constant revisions.

General CHORPENING. As has been brought out, we do annually estimate the benefits. Some of these, as has been shown, have gone down. But generally, along with an increase in the cost of the project, the benefits have increased at least equally as much and in some cases more. It is on both sides of the ledger.

Mr. KERR. What area of land is involved in this project, and what additional land will it make available?

General CHORPENING. We will supply that for the record, sir. It also provides flood protection of a number of towns and cities.

Mr. KERR. That additional information will be helpful.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

Under the presently authorized plan for the central and southern Florida project, there are approximately 3,300 square miles, or 2,112,000 acres, to be protected.

PROGRESS OF WORK

Mr. FORD. Last year it was testified, General, that in fiscal 1951 the budget approved $7,500,000 for this project and Congress appropriated $6,300,000, and that the only result was a few less miles of levees were constructed.

Last year the Congress appropriated $6,000,000 on a budget request of $6,500,000. Did the same hold true during the current fiscal year, just a few less miles of levees were constructed?

General CHORPENING. Then we would have been able to construct had the full amount been allowed?

Mr. FORD. Yes.

General CHORPENING. I would have to check that answer for the record, Mr. Ford. Do you know, Colonel Hiatt?

Colonel HIATT. I am not sure I understood the question.

General CHORPENING. Mr. Ford indicates that last year, in fiscal 1951, I guess it would have been, somewhat less was appropriated than was asked for, and that a few less miles of levees were constructed than otherwise would have been.

This year somewhat less was appropriated than was asked for. Was the effect of that just to reduce a few miles of levees? What was the effect on our progress of that reduction?

Colonel HIATT. That would depend, sir, on what proportion of the construction program is going to be allotted to the construction of structures, that is, concrete spillways and pumping stations and canals, as opposed to the levees.

Last year, as I recall, the relative proportion of the program allotted to levees was a little greater than it is this year. So we are bringing in a few more structures, relatively speaking, as we progress on the project.

In general, your statement that the less money allotted to the project the less levee work can be done is correct.

General CHORPENING. Actually, of the fiscal 1952 funds, it will be noted from the justification sheets, a great amount of that has been allotted to a pumping station and to a spillway, and that lesser amounts were allocated to levee construction.

I would say actually the answer to the question is perhaps some less levees and a little less progress would be made on the spillway and on the pumping station.

Again, to really get down to a close analysis of that you would have to analyze the bids we have received as against what we estimated those items for, Mr. Ford.

Sometimes we hope we are going to get so much done for so much money and we do not obtain it because the bids may be somewhat higher than the estimates.

Again, we may get a little more done because we get more favorable bids than we had estimated.

CONTINUING CONTRACTS

Mr. FORD. According to the justifications this year approximately $2,700,00 is for continuing contracts already in operation?

General CHORPENING. Can you check that, Mr. Bousquet?

Mr. FORD. As I read the justifications, pumping station S–5A, levee L–31, spillway S–24, and canal C–4 are the only continuing contracts that are already in operation?

Mr. BOUSQUET. Those contracts have not as yet been let, Mr. Ford. They will be let this fiscal year. The one for S–5A will be let in May and the one for L–31 and S–24 in March. C–4 will be let in June of this year.

Mr. FORD. The remainder of the funds sought for construction are for the initiation of entirely new portions of the project; in other words, they are not part of the continuing contracts that will be let or have been signed during this fiscal year?

General CHORPENING. That is correct. However, I think in several of those additional items it is contemplated letting continuing contracts in fiscal 1953.

Mr. FORD. In three of the cases continuing contracts would be let in 1953. Those contracts would extend in later fiscal years?

General CHORPENING. Yes, sir. It must be borne in mind that although we break out the justification in these various units, levees, canals, and spillways, that does not mean however that having completed a certain unit it is in fact a completed part of the over-all project, because the spillways and the canals are supplementary to, and work in conjunction with the levees.

REQUEST FROM BUREAU OF THE BUDGET

Mr. FORD. What did the corps ask the budget for on this project?

General CHORPENING. $5,500,00 within ceiling, $3,000,000 over ceiling, a total of $8,500,000.

Mr. FORD. What are the annual benefits in dollars that are derived from this project under your persent estimate?

General CHORPENING. The average annual estimated benefits—this is for the complete project—are $23 million.

BENEFIT-TO-COST RATIO

Mr. FORD. The benefit-to-cost ratio last year was 2.23 to 1. This year it is 2.26 to 1. The annual benefits have decreased dollarwise and the cost has gone up on the entire project?

General CHORPENING. That is correct, the cost has gone up.

ANNUAL BENEFITS

Mr. FORD. Last year it was testified that the annual benefits were $24,500,000.

Mr. COHEN. The $24,500,000 was for the entire comprehensive plan for which you now have a figure in the justification sheet of $27,000,000.

All those benefits were recomputed this year.

Mr. FORD. What was the annual dollar benefit testified to just a moment ago?

Mr. COHEN. That was $23 million for the area from Lake Okeechobee south. It did not include the upper section which is not a part of the project not authorized for construction.

Mr. FORD. How can you figure in any benefits on a benefit-to-cost ratio when part of it is not authorized?

Mr. COHEN. We have not figured in the unauthorized part north of Lake Okeechobee in the $23 million. That is for the project south from Lake Okeechobee. The benefit-to-cost ratio is 2.26 and is based on those benefits and annual charges for the approved part of the project below Lake Okeechobee.

Mr. BOUSQUET. The entire comprehensive plan was approved and just the first phase authorized for construction. This $24 million and the $27 million applies to the approved plan, including the first phase which is authorized.

The difference between the benefits from the approved plan shown on the justification sheets and those we gave you as the benefits resulting from this program that we have shown here takes into account the protection above Lake Okeechobee on the Kissimmee River and the upper St. Johns River.

Mr. FORD. Without some background material it is a little inconsistent.

General CHORPENING. I agree with you that there appears to be some inconsistency. I would like to say that I want to review this to be sure that we are giving exactly the facts. If not, I will so advise the committee.

Mr. FORD. Are you entirely satisfied, General, with the proposed plans you have for the handling of the water in Lake Okeechobee? I understand there have been in the past some criticisms or there are some feelings that there may be some deficiencies in what you have in mind.

General CHORPENING. There have been some differences of opinion on it. That is what I tried to bring out in my earlier statement in connection with the final listing of what we are going to do there, not only because there are differences of opinion but because it is just one of the meanest hydrology and engineering problems we have encountered.

You would think that a matter of levees and canals would be simple. But it is not. There is practically no runoff in that country.

Sometimes we are putting the water into Lake Okeechobee, and sometimes we are taking the water out of Lake Okeechobee. It is most complicated.

PLANNING, ENGINEERING AND DESIGN

Mr. FORD. This million dollars that you are seeking for further planning, engineering, and design is to resolve any questions you might have in your mind with reference to these engineering aspects?

General CHORPENING. That is correct, sir. That is greater than we would normally expect to use, but on account of those difficult problems we are including a considerable amount.

I can say to you that the district and division and my office have put in far more time, proportionately, to study and engineering review of this than we normally would because it is such a difficult problem.

Mr. KERR. You have an allotment of $13,800,000 on this project. How much of that have you obligated?

General CHORPENING. As of the 31st of December we had an unobligated balance of $5,500,000 out of the $13,800,000 allocated.

That may seem large, but I call to the attention of the committee that we did not receive our funds for fiscal year 1952 until early November.

CLARK HILL RESERVOIR, GA. AND S. C.

Mr. RABAUT. We will now take up Clark Hill Reservoir, Ga. and S. C. Clark Hill Reservoir is a project with a total estimated Federal cost of $77 million. There were allotments to date of $69,698,800. The amount appropriated in fiscal year 1952 was $18 million. The tentative allocation for the fiscal year 1953 is $4,100,000.

AMOUNT COMPLETED

This project as of the close of fiscal year 1952 will be 91 percent completed and the money requested for fiscal year 1953 will bring the rate to 96 percent.

General, tell us about the progress of this project during the past year, and what you intend to do with the $4,100,000 requested for 1953.

General CHORPENING. This is a multiple-purpose project with a considerable amount of power installation. We have made excellent progress during the past year and are making progress looking toward the completion of the project.

It will be noted that we expect to have the first power unit on the line in October of this year. We are going right ahead with the complete installation of seven units, all with 40,000 kilowatts capacity, for a total of 280,000 kilowatts.

With the funds requested this year, $4,100,000, we will proceed with the furtherance of the powerhouse, turbines and governors, generators, transformers, and accessory electrical equipment.

The project is, of course, rapidly approaching completion, requiring only $3,201,200 to complete after this fiscal year.

Mr. KERR. About 95 percent of it has been built, has it not?

General CHORPENING. Will have been built at the end of this fiscal year.

POWER STATUS

Mr. RABAUT. What is the status of the negotiations for the marketing of power from this project?

General CHORPENING. I think Colonel Paules can answer that.

Colonel PAULES. That is handled by the Southeastern Power Administration. We do not have at this time current information on the negotiations of the Southeastern Power Administration. We can obtain that for the record if you desire, sir.

Mr. RABAUT. I trust that it would not be possible that all the power not be used?

General CHORPENING. It will be placed on the line immediately when the project is completed. What Colonel Paules is saying amounts to that. I had hoped he might have had some information from the Southeastern Power Administration.

Mr. RABAUT. Suppose you secure the information and place it in the record.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

The Southeastern Power Administration advises that it has written agreements for supplying power from Clark Hill to the South Carolina Public Service Authority and the Greenwood County Electric Power Commission. These agencies supply power to a number of defense industries in addition to many other customers, and are in urgent need of the power from Clark Hill by the fall of 1952. In addition the Southeastern Power Administration is negotiating with the Third Army for supplying power to a number of military establishments. Additional transmission facilities needed in connection with Clark Hill power are under construction and will be available as soon as the power is available.

NAVIGATION BENEFITS

Mr. RABAUT. What navigation now exists on the Savannah River?

General CHORPENING. I will have to furnish for the record, the tonnage of traffic that moves there now.

(The information appears on p. 323.)

The present nominal channel depth is 6 feet between Augusta and Savannah, and this project will increase that navigable depth to 7 feet at all times, through the regulation by the Clark Hill Reservoir and reregulation of the downstream Stevens Creek Reservoir.

MOSQUITO CONTROL

Mr. RABAUT. What is the mosquito-control problem here and what are you doing to alleviate it?

MALARIA CONTROL

General CHORPENING. This is in a section of the country where the matter of mosquito control and malaria control is a problem.

I think we had to make some modification in our clearing work here in order to meet the desires of local, State, and Federal health services in that regard.

Mr. RABAUT. You are cooperating with other agencies?

General CHORPENING. We cooperate fully with the United States Public Health Service, with the health services of the State, and locally. We do that on all of our projects, Mr. Rabaut.

VARIATION IN CONTRACT COSTS

Mr. RABAUT. I am informed that the last contract let on this project was about 50 percent less than the without profit Government estimate. Would you explain this tremendous difference?

General CHORPENING. I think I will have to furnish that information for the record, sir. I do not have it.

Mr. RABAUT. You might at the same time touch upon the labor situation in the area.

General CHORPENING. Yes, sir.

Mr. RABAUT. This question is asked because of the general trend toward higher costs, and here is something that is 50 percent less than the without profit Government estimate.

General CHORPENING. Frankly, I am amazed to hear that. I will be most interested to find the reason for it.

Mr. RABAUT. We do not want anybody reading this record to think that we do not appreciate these bids. But we just cannot understand why the estimate would be so far off.

(The information requested is as follows:)

FAVORABLE BID FOR SWITCHYARD—CLARK HILL RESERVOIR

Regarding the low bid received for the construction of the 115-kilovolt switchyard, it should be noted that five bids were received which ranged from the low bid of $280,855.08 to the highest bid of $545,389.50. The Government estimate was $548,382. It is apparent that the Government estimate was reasonable and that a very favorable low bid was received by the Government.

LABOR SITUATION—CLARK HILL RESERVOIR AREA

Contractors in the Clark Hill Reservoir area do have difficulty in obtaining labor, because of the high demand for labor in the area. In order to obtain labor in the skilled trades, it is necessary for them to pay higher wages than contemplated, due principally to the high rates prevailing at the Atomic Energy plant, and it has also been necessary that they promise overtime.

BENEFIT-COST RATIO

Mr. FORD. General, what is the breakdown of benefits at this point?

General CHORPENING. Flood control, $104,000; power, $7,616,000; navigation, $201,000; a total of $7,921,000. Percentagewise it is approximately 1 percent for flood control, 96 percent for power, and 3 percent for navigation.

Mr. FORD. What is the benefit-to-cost ratio?

General CHORPENING. 2.45 to 1.

Mr. FORD. Last year it was 1.88, I believe. How do you account for the increase?

General CHORPENING. First, the estimated cost of the project is less than last year; second, our estimates now of power benefits are greater by approximately $1,100,000.

(Discussion off the record.)

Mr. FORD. I think for the record if you could put in some explanation as to why there was that fluctuation first up and then down in a period of 2 years it would be helpful.

You will notice on page 426 it is indicated that the cost was originally $76 million and apparently last year the cost was estimated at $78,400,000. This year in the justifications the cost is given at $77 million.

General CHORPENING. As was stated last year, in projecting the prevailing unit costs of the equipment and work still to be done it was considered desirable that we should make the increase of $2,400,000 in the over-all estimated cost.

Since that time the following items make up the over-all decrease. First, there were certain price level changes due to court awards and condemnation proceedings of $81,000. That is an increase. That is given in the over-all picture. Then, "Changed local needs or situations," wherein we have negotiated with county authorities for the relocation of county roads, and it has been concluded that certain short sections could be abandoned. That resulted in a $17,000 decrease.

Then we made changes in switchyard and equipment at the suggestion of the Southeastern Power Administration which accounted for a reduction of $64,000.

We exposed the bed of the river after the construction of the cofferdams and found that more favorable conditions existed than we had anticipated, thus permitting a downward revision of the concrete required. That reduced the amount of our estimate $1,300,000. We got favorable bids due to the volume of the work involved in the relocation of cemeteries, which accounted for a $100,000 decrease.

All of those resulted in an over-all decrease of $1,400,000.

REQUEST FROM BUREAU OF BUDGET

Mr. FORD. How much did you ask the Bureau of the Budget for this year?

General CHORPENING. $4,200,000.

Mr. FORD. Do you still expect to have the power on the line at the same time that you did a year ago?

Colonel PAULES. We expect to; yes, sir.

General CHORPENING. We expect to have the power on the line at the same time, which is October 1952. The first unit will go on the line at that time.

Mr. FORD. Will you bring up to date the chart which was included in the record last year on page 428, showing the navigation traffic?

General CHORPENING. Yes, sir.

(The information is as follows:)

The principal traffic on the Savannah River below Augusta, Ga., consists of petroleum products, logs, brick, and tile. The following tabulation indicates the extent of traffic below Augusta.

	Tons of traffic		*Tons of traffic*
1940	77,660	1946	18,994
1941	56,595	1947	28,109
1942	24,635	1948	45,554
1943	24,749	1949	31,761
1944	18,880	1950	36,530
1945	17,500		

POWER BENEFITS

Mr. RABAUT. General, under date of June 5, 1951, in a letter signed by you to our chairman, Judge Kerr, you enclosed a letter from the United States Department of the Interior, Southeastern Power Administration, Atlanta, Ga., dated May 11, 1951, which was signed by Charles W. Leavey, Acting Administrator, and sent to Col. B. A. Robinson, division engineer of the South Atlantic Division, Corps of Engineers.

Your letter to the chairman says in the first paragraph:

We have received the letter from the Southeastern Power Administration in regard to the Clark Hill project in Georgia and South Carolina which I believe is of sufficient importance that it should be passed along to your subcommittee for consideration in connection with the fiscal year 1952 appropriations.

In the letter from Charles W. Leavey, the Acting Administrator, to Colonel B. A. Robinson, it states in the third paragraph:

Our marketing plans for Clark Hill power anticipate service to military establishments: The Savannah River project of the Atomic Energy Commission and the rural and urban power systems upon which industrial and agricultural defense production depends. We have committed ourselves to begin deliveries of Clark Hill power in October 1952, and the agencies to whom commitments have been made are basing their plans on this initial delivery date.

What are the military establishments that you are going to supply this power to, and what amount will be supplied to each of these subdivisions?

General CHORPENING. We will have to supply that for the record. (The information requested is as follows:)

The Southeastern Power Administration advises that it is negotiating with the Third Army to supply power from Clark Hill to the following military installations: Atlanta General Depot, Atlanta, Ga.; Augusta Arsenal, Augusta, Ga.; Fort Benning, Columbus, Ga.; Camp Gordon and Camp Gordon Pump Station, Augusta, Ga.; Fort Jackson, Columbia, S. C.; and Fort McPherson, Atlanta, Ga. The Southeastern Power Administration advises, further, that it is marketing Clark Hill power at a rate of 75 cents per kilowatt of monthly billing demand plus 4 mills per kilowatt-hour of energy delivered.

ALBENI FALLS DAM, IDAHO

Mr. RABAUT. We will turn to the next project, Albeni Falls Dam, Idaho. This is a project with a total estimated Federal cost of $31,070,000. The allotments to date are $12,900,000. There was an appropriation in 1952 of $10 million. The tentative allocation for fiscal year 1953 is $8,100,000.

This project will have a percentage of completion by the end of fiscal 1952 of 41 percent. With the money that is requested for the fiscal year 1953 the rate will be increased to 67 percent.

General, inform us concerning this project, its progress and the expectancy.

General CHORPENING. This project is essentially being constructed for the production of power.

POWER BENEFITS

With the funds appropriated in fiscal 1952 we will be able to go ahead with the construction looking toward the scheduled date of the first power unit to be on the line August 1954.

The amount requested for this year will be placed, to the greatest extent, on intake structure and powerhouse and on the contracts for hydroelectric machinery and powerhouse equipment.

This is a project that has its value not only from the power that it produces at its site but from the firming up of power at other downstream hydroelectric installations.

It has a cost-benefit ratio of 2.36 to 1.

Mr. RABAUT. How do you explain the fact that the benefit to cost ratio for this project without power is 4.61 to 1 and with power is only 2.36 to 1?

General CHORPENING. In reading the record last night I could not understand it. There appears to be some inconsistency.

If you built the dam without power units in it, it could be built for a much lesser amount. But it would still serve to do the regulating of the river and firm up the power below. I believe we were right in the first place.

Mr. RABAUT. On the basis of these ratios one might say that power here is not too feasible from an economic standpoint?

General CHORPENING. We still have to put the power in here, and it will be firm power. We still have a project with a benefit-cost ratio which is very favorable.

Mr. RABAUT. The rate will be pretty fair, but it is almost a 50-percent drop, is it not?

General CHORPENING. About a 40-percent drop.

STATUS OF LAND PURCHASES

Mr. RABAUT. What is the status of the land purchases here? Have they been completed?

General CHORPENING. On the 30th of June the dam-site construction area and aggregate borrow pit lands had been acquired. Real estate surveys were reasonably complete and appraisals were given. The over-all land acquisition program of June 30 was about 4 percent completed. At the end of this current fiscal year it is expected that the land acquisition program will be completed with the exception of closings and final settlements of condemnation proceedings.

Mr. RABAUT. How much will be involved in that?

General CHORPENING. There is a total acreage to the project of 9,542.

Mr. RABAUT. How much land is involved in the project that you will have to acquire?

General CHORPENING. At the end of this year we will have essentially completed the land acquisition program, the end of this fiscal year, with the exception of condemnation proceedings and final settlements.

Mr. RABAUT. Is the amount involved in the condemnation proceedings very great?

General CHORPENING. We are anticipating now at the end of this year there may be a few condemnation proceedings still unsettled.

POTENTIAL POWER DEVELOPMENT

Mr. RABAUT. What is the potential power development?

General CHORPENING. We propose to install three units at the dam of 14,200 kilowatts for a total of 42,600 kilowatts.

Mr. RABAUT. Is the base so constructed as to take additional units?

General CHORPENING. No, sir.

Mr. RABAUT. Yesterday we were talking about the installation of additional units at another project. There is nothing like that here?

General CHORPENING. No, sir.

Mr. FORD. We have had some discussion earlier about the relative merits of the power that would be generated in two different circumstances. Without power at the site of Albeni Falls the benefit to cost ratio would be 4.67 to 1 and under the current ratio it will be 2.36 to 1. Does that make the power that will be usable as a result of the installation of units at Albeni Falls justifiable?

General CHORPENING. I would like, if I could, in view of some discussion that has been brought out here earlier, to review this matter because I think probably what was in mind last year was that we would not complete the whole project but have perhaps a cofferdam only in place rather than building the dam all the way across the river, which we would have to do, certainly eventually, instead of the powerhouse.

I am sure that if we compare the building of a complete dam without a powerhouse, a proper dam, and only figuring on the benefits that the releases of water out of that dam would give as against building in the power that we can put there, I just do not conceive that the cost-benefit ratio would have that much variation.

Mr. FORD. On the surface and from a nonengineering point of view, I would concur with that last statement.

General CHORPENING. I would like to review carefully the testimony of last year. I want to see exactly on what basis that 4.67 to 1 was computed, and then I can furnish the committee with further and more considered statements on that.

(The information requested appears on p. 327.)

Mr. FORD. Last year the estimated expenditures for the future fiscal years shows that in 1953 you were going to need $8.5 million; in 1954, $9.4 million; and 1955, $270,000.

SCHEDULED EXPENDITURES 1953–56

There has been some changes in that schedule, as indicated by the request this year, which is $8,100,000.

Can you give us what your future schedule appears to be?

General CHORPENING. Fiscal 1954, $7,411,000; fiscal 1955, $2,537,000; fiscal 1956, $122,000.

Mr. FORD. Is that change in schedule indicative there has been a revision in the date that there will be power on the line?

General CHORPENING. We still are hoping to make our present schedule of the first power on the line in August 1954.

AVERAGE ANNUAL BENEFITS

Mr. FORD. What are the average annual benefits anticipated on the set-up?

General CHORPENING. Flood control, $27,400; navigation, $7,000; power, $3,943,000; a total of $3,977,400.

Mr. FORD. That is quite a drop from last year when the average annual benefit was testified to be $4,464,000.

General CHORPENING. That was in the power benefits. A reevaluation was made which dropped that benefit roughly $500,000.

Mr. FORD. That accounts for the change in the benefit-to-cost ratio?

General CHORPENING. Yes, sir.

CONTINUING CONTRACTS

Mr. FORD. Are you undertaking with the money this year any anticipated new continuing contracts?

Mr. BOUSQUET. Yes, sir. There would be one for powerhouse equipment, being awarded in December, 1952 for $470,000. That is the only new continuing contract proposed with the 1953 request.

POWER BENEFITS

Mr. FORD. What part of the power benefits are attributable to the Albeni Falls installations, and what part is attributable as a result of increased power downstream?

Colonel PAULES. Under the existing plants now in operation, including Grand Coulee and Bonneville, Chief Joseph and McNary, which are under construction, and the Hungry Horse project, Albeni Falls will add 142,000 kilowatts at downstream plants and will have prime power at site of 18,000 kilowatts, or a total of 160,000 kilowatts.

For those projects which are presently in operation, that is, in the fall of 1952, when Albeni Falls will add downstream power immediately, the total is 100,000 kilowatts. That would be added to Grand Coulee, Bonneville, and the Hungry Horse project.

Mr. FORD. You do not have a dollar breakdown?

Colonel PAULES. It could be computed but I do not have one.

Mr. FORD. Could you do that for the record?

General CHORPENING. Yes, sir.

If you would be satisfied with that within a reasonable percentage rather than precisely, we can do it rapidly.

Mr. FORD. That will be satisfactory.

(The information requested follows:)

The Albeni Falls project will increase the system prime power available by 160,000 kilowatts when added to the group of Federal projects which are existing and under construction. This includes 18,000 kilowatts of prime power at the Albeni Falls site and 142,000 kilowatts at downstream sites as shown in the following tabulation.

	Prime power added to system	Power benefits
	Kilowatts	
Grand Coulee	84,000	$2,213,000
Chief Joseph	32,000	582,000
McNary	17,000	456,000
Bonneville	9,000	224,000
Total downstream benefits	142,000	3,475,000
Albeni Falls site	18,000	468,000
Total power benefits	160,000	3,943,000
Other benefits		34,400
Total benefits		3,977,400

The estimated annual charges for the Albeni Falls project are $1,683,000 and the benefit-cost ratio is 2.36. If the power facilities at Albeni Falls were omitted, and a section of dam put in place of the powerhouse section the benefit-cost ratio would be 4.26; however, the power benefits at the site would not be obtained. The Albeni Falls project, including power, is essential to the power development of the water resources of the region and is well justified by the over-all benefits which will accrue. Considering the over-all benefits, the location of the Albeni Falls project with respect to the major transmission system and load centers, and established State law and local rights, the development of power at Albeni Falls was recommended in Senate Document 9, Eighty-first Congress, and authorized by the Flood Control Act of 1950.

FRIDAY, JANUARY 24, 1952.

LUCKY PEAK RESERVOIR, IDAHO

Mr. KERR. General Chorpening, we now come to the Lucky Peak Reservoir in Idaho. The total estimated Federal cost of this project is $22,000,000; allotments to date are $9,980,000; and the tentative allotment for fiscal year 1953 is $6,087,000. The additional amount required to complete the project after 1953 is $5,933,000.

We will be glad to have you explain this item to us and justify this request.

General CHORPENING. This is a flood-control project in Idaho, and we propose to allocate the funds we are requesting in 1953 primarily to the furtherance of construction of the embankment, the manifold and outlet works, and relocations.

The cost-to-benefit ratio of this project is now estimated at 1.18 to 1.

We believe the funds asked for here will enable us to continue to make proper progress toward completion of this project.

Mr. KERR. The project is about 40 percent complete; is that correct?

General CHORPENING. The amount we have had to date is 45 percent of the estimated amount, and the funds we have requested for 1953 will bring the project to 75 percent of completion.

Mr. FORD. General Chorpening, has the definite project report been completed on this project?

General CHORPENING. Yes, sir; it has.

Mr. FORD. I notice there is no change in the estimated cost of this project. What is the reason for that very desirable situation?

General CHORPENING. This is a project where we have reviewed our estimates, and in view of contracts that have been let and the construction prices that obtain in that section of the country, we concluded that no change in the estimate is required at this time.

Mr. FORD. According to the testimony last year, we were going to continue construction on the basis of an appropriation of $7,500,000 in 1953 and, in 1954, an appropriation of $4,320,000. According to the justification for fiscal 1953, you are requesting $6,087,000. How does that difference come about?

General CHORPENING. The amount shown, of course, is that allowed for this project of $6,087,000 and we now propose to request the remaining amount, $5,933,000, in fiscal year 1954 to complete it.

Mr. FORD. In other words, there is no change in the balance for completion?

General CHORPENING. No, sir.

Mr. FORD. Did you ask the Budget on this project for more than $6,087,000 this year?

General CHORPENING. The actual budget request was $6,087,800.

BENEFIT TO COST RATIO

Mr. FORD. Last year the benefit-to-cost ratio was 1.1 to 1. This year it is 1.18 to 1. How is that accounted for?

General CHORPENING. A reanalysis of the benefits has been made since last year and, if you so desire, we can give you a detailed breakdown of the present benefits as we estimate them.

Mr. FORD. Will you do so, please?

General CHORPENING. The benefits as now estimated are: Flood control, $867,000; siltation control, $76,500; increased land use, $41,000; irrigation, $74,600; incidental benefits creditable to Lucky Peak and system operation, $53,000; recreation, $20,000; total, $1,132,100.

Mr. FORD. In the record, will you break that down percentagewise?

General CHORPENING. Yes, sir.

(The material requested is furnished below.)

On a percentage basis the aforementioned benefits are as follows:

	Percent
Flood control	77
Siltation control	6
Increased land use	4
Irrigation	6
Incidental benefits to Lucky Peak and system operation	5
Recreation	2
Total	100

RELOCATIONS

Mr. FORD. Last year there was considerable discussion over the fact that a substantial part of this project is devoted to expenditures for relocations. Do you have any comments to add on that point this year?

General CHORPENING. No, sir. I have nothing further to add to Colonel Potter's testimony of last year as to the reasons for the rather high cost of relocations. Those are still valid reasons and the reasons for the high cost of the relocations.

Mr. FORD. In your progress on the project, has there been any decrease in the relocation costs?

General CHORPENING. No change from last year.

CONTINUING CONTRACTS

Mr. FORD. Are you contemplating initiation of continuing contracts in the fiscal year 1953?

Mr. BOUSQUET. Yes, sir. There is supposed to be awarded a continuing contract for revisions to Arrowrock Dam in August of 1952 and one contract for reservoir clearing in July of 1952 and a contract for relocation of Arrowrock and Robie Creek Roads in July of 1952 and a contract for the completion of the intake and outlet works, also to be awarded in July of 1952.

Mr. FORD. When you look over the record, will you put down the approximate amounts of those contracts?

Mr. BOUSQUET. Yes, sir.

(The information requested is as follows:)

The total estimated costs for the contracts mentioned together with the proposed allocation for fiscal year 1953 are as follows:

	Total cost	Fiscal year 1953 allocation
Revisions to Arrowrock Dam	$190,000	$100,000
Reservoir clearing	78,000	40,000
Relocation of Arrowrock and Robie Creek Road	1,508,000	1,162,000
Completion of intake and outlet works	4,356,000	2,348,000

ARROWROCK DAM

Mr. FORD. What is this item of revisions to Arrowrock Dam?

General CHORPENING. Revisions to Arrowrock Dam are those required by the inundation of the lower 100 feet of the structure by water backed up by the Lucky Peak project. They will consist of raising the main gallery entrance of the downstream face of the dam, extensions to the outlet valves, and revisions to the interior drainage system. The cost of this work will be borne by the Lucky Peak project.

Mr. FORD. Is the Arrowrock Dam federally owned or privately owned?

General CHORPENING. It is a Bureau of Reclamation dam.

Mr. FORD. Then it is permissible for the Federal Government to reimburse another Federal agency for damages done to another agency's projects, but it is not permissible for the Federal Government to reimburse private interests for damages done to a private project?

General CHORPENING. This is not a navigable steam.

Mr. FORD. What was the other project we discussed the other day?

General CHORPENING. Bull Shoals Reservoir, sir.

Mr. FORD. Is the reason you cannot make reimbursement on the other project the fact that it is a navigable stream?

General CHORPENING. That is correct.

Mr. FORD. On a nonnavigable stream, the Federal Government could go right ahead and make the reimbursement?

General CHORPENING. Yes, sir.

Mr. FORD. Is there any local contribution in the construction of this project?

General CHORPENING. No, sir.

Mr. FORD. There is none required because of the basic legislation or because it was not possible to convince local interests that they should contribute?

General CHORPENING. Basic legislation and the policy of the Federal Government in projects of this type. No local cooperation is required.

COLUMBIA DRAINAGE AND LEVEE DISTRICT, ILL.

Mr. KERR. We will turn now to the Columbia drainage and levee district, Illinois. The total estimated Federal cost is $2,542,000; allotments to date are $2,230,100; and you are requesting the sum of $311,990 to complete this project. Is that correct?

General CHORPENING. That is correct.

Mr. KERR. Will you tell us about this project.

General CHORPENING. This is one of a number of projects that will follow in succession of levee extensions and revisions to be made on the Mississippi River from the general vicinity of St. Louis to the vicinity of Cario. Essentially these projects consist of increasing the height of the levees, increasing the section, and in other places modifying the original levees as a result of the flood of 1943.

This particular project is located in Monroe County, Ill., on the left bank of the Mississippi River between river miles 157 and 167 above the mouth of the Ohio River.

Most of the amount requested, $311,990, will be placed on railroad alterations and seepage corrective measures and will complete this section of the levee.

At this time it might be desirable to show on the map to the members of the committee exactly where this one is located and also the additional ones to follow.

Mr. KERR. All right, sir.

(Discussion off the record.)

Mr. FORD. General, I notice that $186,300 out of the $311,990 is for railroad alterations. What connection does that have to granting protection through the area? That seems a little far-fetched as far as protection is concerned.

ALTERATION OF RAILROAD TRACKS

General CHORPENING. The railroad crosses the upper flank of the levee, and under existing law the cost of the alteration of the Missouri Pacific at that point is a Federal obligation.

Mr. FORD. In other words, if you are going to build the levee, you have to alter the tracks of the railroad?

General CHORPENING. That is correct; yes, sir.

Mr. FORD. You could not defer the alterations to the railroad and still build the levee?

General CHORPENING. You could not and have the levee to proper height.

INFLUENCE OF MISSOURI-KANSAS FLOOD

Mr. FORD. This, as you indicate, is one of the projects that were included in the Senate version of last year's civil functions bill. Was this project included on the basis of some connection with the Missouri-Kansas flood?

General CHORPENING. Yes, sir. The Missouri River discharges into the Mississippi not far above this point. As a consequence, all of the levees in this stretch of the river were seriously endangered last year, and due the fact that behind these levees are railroads that are of tremendous value and important to the Nation defense-wise and that there are industries lying behind these levees, it was considered that work should proceed to complete the authorized projects on these levee systems.

Mr. FORD. The flood in the Missouri-Kansas area last year was a 100-year flood or project flood.

General CHORPENING. The flood out of the Kansas River last year far exceeded any flood of record.

Mr. FORD. And with that highest flood of record, these levees as they exist now were not topped; they were threatened but were not topped?

General CHORPENING. That was a flood of record out of the Kansas River. Had the Missouri River or the upper Mississippi been in flood at the same time—which very fortunately they were not—the levees certainly would have been topped in many places.

Mr. FORD. How frequently do you get a combination of record floods on the rivers you have mentioned?

General CHORPENING. Generally we must take into consideration in our designs of levee grades that there may well be a juxtaposition of high stages out of the various arms of the river that go to make up the Mississippi at this point, and prior to the flood last year we had always set up our design flood at Kansas City on the theory that the Missouri River would be at a higher stage than it actually was. That was based on all experience up to that time.

I think it is of interest that the run-off records, stage records, of this country are relatively short in duration on which we base our projected design floods and, as the years go by and we have longer-term records, then we are able to make much better calculations as to what a maximum flood might be. We now use our best judgment. Sometimes our best judgment is confounded by Nature.

Mr. FORD. When you presented the Corps of Engineers' budget to the Bureau of the Budget for fiscal 1952, was this project included?

General CHORPENING. Yes, sir. We asked the Bureau of the Budget for funds for this in fiscal 1952 in the amount of $400,000.

Mr. FORD. Was that request made at the time of the original submission of the budget?

General CHORPENING. Yes, sir.

Mr. FORD. Not at the time of a subsequent submission following the Kansas-Missouri flood?

General CHORPENING. At the time the original submission was made.

Mr. FORD. And the Bureau of the Budget deleted the project prior to the submission of the budget to Congress?

General CHORPENING. Yes, sir.

Mr. FORD. It was subsequently resubmitted by the budget after the Kansas-Missouri flood?

General CHORPENING. Yes, sir.

CONTRIBUTIONS BY RAILROADS

Mr. FORD. Are the railroads making any contribution to the cost of these alterations or relocations?

General CHORPENING. Not to the Federal project. All of the other work required to bring the railroad line up to the grade of the crossing is done at the expense of the railroad.

Mr. FORD. Percentagewise, how does that cost break down?

General CHORPENING. We will supply that information for the record.

(The information requested is as follows:)

COLUMBIA DRAINAGE AND LEVEE DISTRICT, ILLINOIS

Under the present plan for the railroad alteration for the North Flank levee for which funds are allocated for fiscal year 1953, the track raise inside the levee district will be born by the Federal Government at an estimated cost of $218,900, and the track raise outside the levee district through an unprotected area will be borne entirely by the Missouri Pacific Railroad. This is estimated to cost approximately $278,000, which includes three-fourths mile of track and three bridge changes. These funds expressed on a percentage basis would be 44 percent Federal and 56 percent non-Federal.

For the entire levee plan between Alton and Gale, the total cost of the alterations to the Missouri Pacific Railroad is $4,600,000, of which $2,100,000 will be borne by the United States and $2,500,000 will be borne by the Missouri Pacific Railroad. These funds expressed on a percentage basis would be 46 percent Federal and 54 percent non-Federal.

LOCAL CONTRIBUTIONS

Mr. FORD. Are local interests in this case making any contribution?

General CHORPENING. Local interests must provide, without cost to the United States, all lands, easements, and rights-of-way necessary for the construction of the project and, as usual, hold and save the Government free from harm and maintain all structures after completion.

Mr. FORD. They maintain the structures here, just as the levee districts do down on the lower Mississippi?

General CHORPENING. Yes, sir.

EAST CAPE GIRARDEAU AND CLEAR CREEK DRAINAGE DISTRICT, ILLINOIS

Mr. KERR. We will turn now to the East Cape Girardeau and Clear Creek drainage district, Illinois, for which the total estimated Federal cost is $1,522,000; allotments to date are $1,278,000; and the tentative allocation asked for fiscal year 1953 is $244,000.

Will you explain this project to us and justify the request, General?

General CHORPENING. This is another section of levee, similar to the one previously considered, and the $244,000 requested in fiscal year 1953 will complete the work in this drainage district. We propose to utilize the funds for closure structures, seepage-corrective measures, and the finalization of engineering and design.

I may point out that the cost-to-benefit ratios on all of these levee projects are quite favorable. On this project, it is 1.66 to 1.

Mr. FORD. Was this project originally submitted by the Corps of Engineers to the budget for fiscal 1952?

General CHORPENING. Yes, sir.

Mr. FORD. For how much did you ask at that time?

General CHORPENING. $575,000.

Mr. FORD. The request was denied by the Bureau of the Budget?

General CHORPENING. Yes, sir.

Mr. FORD. And it was subsequently resubmitted to the budget, and the President in turn resubmitted it to the Congress following the Kansas-Missouri flood of last year for the amount of $500,000?

General CHORPENING. Yes, sir.

Mr. FORD. And the request this year of $244,000 brings this project up to 100 percent of completion?

General CHORPENING. Yes, sir.

EFFECTS OF FLOOD

Mr. FORD. What harmful results took place last year as a result of the Kansas-Missouri flood in this area?

General CHORPENING. As far as harmful results are concerned, this levee line was not broken. However, at all of these levees that we are discussing, there was considerable concern, and in some of them—I do not know that it happened at this one—considerable funds were expended in order to be prepared if the water should get up to a point where it was possible that a break might occur.

Mr. FORD. Can you show for the record on this project and also for the previous project how close to topping the levee the Kansas-Missouri flood of 1951 came?

General CHORPENING. Yes, sir; we can furnish that information.

(The information requested is as follows:)

COLUMBIA DRAINAGE AND LEVEE DISTRICT

The 1951 high water in the Columbia drainage and levee district averaged 8½ feet below the top of the river-front levee which was completed during the 1951 flood. The range was from 8 to 9 feet below the top of the levee. There were uncompleted portions of the flank levees, but due to the fact that there were no appreciable floods in these tributaries the flank levees had the same or better free board except for 6,500 feet on the south flank levee, where the free board was 6 feet.

EAST CAPE GIRARDEAU

In the East Cape Girardeau district, the 1951 flood averaged 8.2 feet below the top of the existing river-front levee. The range was from 7.2 to 9 feet below the top of the levee.

CONTINUING CONTRACTS

Mr. FORD. With the funds provided for this fiscal year, did you start any continuing contracts which will continue through the following fiscal year?

Mr. BOUSQUET. No, sir. They were all separate contracts.

Mr. FORD. In other words, the $500,000 for the current fiscal year are separate contracts, and for the $244,000 for the coming fiscal year they will also be separate contracts?

Mr. BOUSQUET. Yes, sir.

Mr. FORD. Is that also true in reference to the previous item?

Mr. BOUSQUET. In the previous project there was a continuing contract for railroad alterations going back to 1947, with the completion date in 1954. There apparently was a continuing contract for these railroad relocations, to which this money is being applied, which probably extended over the same period. It was not a new contract started last year, and the money was applied to the existing continuing contract.

General CHORPENING. I would like to say something further here. Although these drainage districts are set up and each one covers a stretch of the levees along here, it does not necessarily mean that each is a self-contained unit so that a break in any one unit would only affect or do damage within the territory included in that drainage district. I wanted to make that clear: that it might likewise affect adjacent districts.

CONTRIBUTIONS OF THE RAILROAD

Mr. FORD. In this case, are the railroads making any contribution? According to the justification, the levee is to a large extent for the protection of the main-line track of the Missouri-Pacific Railroad.

General CHORPENING. The answer is that in this instance there is no contribution by the railroad, direct or indirect.

EAST ST. LOUIS AND VICINITY, ILLINOIS

Mr. KERR. We will now take up "East St. Louis, and vicinity, Illinois." The total estimated Federal cost of this project is $12,667,000, and allotments to date are $4,475,200. You are asking, for fiscal year 1953, $1,500,000, which, together with the allotments to date, will bring this project to 47 percent of completion.

General CHORPENING. Yes, sir. This project is a particularly important local protection-levee project, inasmuch as it is to protect East St. Louis and vicinity, behind which levee exists a concentration of industry, much of which is connected with national-defense production. Furthermore, there is a depot, the Granite City Engineer Depot, actually, where tremendous damage would be done should floodwaters break through the levee protection. Also, there is considerable urban property and agricultural lands that are protected.

The cost-to-benefit ratio of this project, it will be noted is 9.36 to 1.

Of the funds requested for fiscal 1953—$1,500,000—$939,000 would be allocated to embankments and $343,000 to seepage-corrective measures and minor amounts to other portions of the project.

We contemplate at this time requesting $1,500,000 in fiscal 1954, the same in 1955, the same in 1956, and the same in 1957, looking toward completion of the entire project in fiscal 1958.

BENEFIT-TO-COST RATIO

Mr. FORD. Last year, General, it was testified that the benefit-to-cost ratio was 9.78 to 1, and this year the figure is said to be 9.36 to 1. How do you account for the variation?

General CHORPENING. There has been a slight increase in the estimated cost of this project and a reevaluation of the benefits which have resulted in this small revision downward.

Mr. FORD. If my memory serves me correctly, this is the highest benefit-to-cost ratio that we have found thus far this year; yet, you are not contemplating completing the structure for 4 or 5 years. Would you not normally, where there was such a favorable cost-to-benefit ratio, push such a project to completion?

General CHORPENING. Normally, yes, sir.

Mr. FORD. As you read the justifications, there is considerable data given showing an alleged connection between this project and the defense effort.

General CHORPENING. I believe the principal difficulties here are probably due to working with local interests who have to provide rights-of-way and to working it out on a schedule fitting in with the rapidity with which those interests can provide to us the rights-of-way necessary to proceed with the completion. There may be other reasons, but I do not know of them at this time.

REQUEST FROM THE BUREAU OF THE BUDGET

Mr. FORD. How much did you request from the budget on this project?

General CHORPENING. $1,500,000.

Mr. FORD. How do you account for the increase in cost from $12,092,000 to $12,677,000?

General CHORPENING. Entirely on the Engineering News-Index increases in unit prices.

OTHER PROJECTS IN AREA

Mr. FORD. What is the relationship between this project and the Chain of Rocks project, if any?

General CHORPENING. I believe the upstream end of this levee ties into the downstream end of the channel entering Chain of Rocks.

RAILROAD ALTERATIONS

Mr. FORD. Are there any railroad alterations necessary in this project.

General CHORPENING. Yes, sir. The total railroad alterations required for the complete project amount to $1,627,200.

Mr. FORD. According to the justifications, no railroad alterations are contemplated in the funds requested for 1953. When will those railroad alterations be undertaken?

General CHORPENING. It is expected that the alterations to the railroads at the levee crossings will be initiated during fiscal year 1956 and completed in fiscal year 1958 under the present program.

Mr. FORD. Have you started any negotiations with the railroads?

General CHORPENING. I will have to insert that in the record.

(The information requested is as follows:)

STATUS OF NEGOTIATIONS FOR RAILROAD RELOCATIONS, EAST ST. LOUIS

Preliminary negotiations with nine railroads which cross the east side riverfront and flank levees have been carried out. In the case of one, the Missouri Pacific Railroad, formal agreement has been entered into covering track alterations. In two other cases, with the Southern Railroad and the Alton & Southern Railroad, informal agreements have been reached covering closure structures in lieu of track alterations. In the remaining six cases, which are listed below, formal agreements are yet to be entered into: (1) Terminal Railroad Association of St. Louis; (2) Illinois Central Railroad; (3) Illinois Terminal Railroad Co.; (4) Gulf, Mobile, & Ohio Railroad and Illinois Terminal Railroad Co.; (5) Cleveland, Cincinnati, Chicago & St. Louis Railway (New York Central System); and (6) Wabash Railroad Co.

CORRECTIVE MEASURES TO HANDLE SEEPAGE

Mr. FORD. What do you mean by seepage corrective measures?

General CHORPENING. As a general statement, many of our levees are founded on a type of soil that is permeable, where, if you have a head of water against the levee, then you build up behind the levee a pressure or you get too much water coming through, which creates local flood conditions, not from any break in the levee but from underseepage. When we know the foundation conditions are such as possibly to make that dangerous, we must include into our construction, provisions to handle the underseepage.

Now, there are many methods utilized, depending on the conditions—the height of the levee, type of soil—to take care of underseepage conditions. The most elaborate consists of wells that go down to considerable depths and which are tied into headers carried to a pumping plant which operates at such times as water is up against the levee. In other instances we are able to handle it by putting in toe trenches with gravel where the water can collect and be carried away in some other fashion.

Mr. FORD. Is that a rather expensive corrective measure?

General CHORPENING. Col. Hiatt has some pictures here which will show you what these measures are.

(Discussion off the record.)

General CHORPENING. I would like to make another short statement for the record. The alternative engineering solution to putting in the kinds of treatment we have described would be to put cut-off walls underneath those levees, which would be tremendously expensive. And unless some means are taken to handle the seepage problem, then we encounter and have encountered many times what we call sand boils, where pressure builds up in the waterway and water boils up behind the levee, and you have to ring the boils with sandbags. I have seen them built up 10 and 15 feet high—sometimes almost as high as the water on the other side of the levee—to contain the seepage at that place. If you do not hold it, pretty soon you have piping underneath the levee and then have a failure.

Mr. FORD. Have the seepage corrective measures as used by the Corps of Engineers been successful?

General CHORPENING. They have been most successful; and I may say further that the seepage problem is one to which the Corps of Engineers through the years has given a great deal of study in its various districts and laboratories. As is the case with most engineering problems, it is not one that I would say we have completely solved. We are continually alert to try to discover better and more economical means of solving them.

CONTINUING CONTRACTS

Mr. FORD. Are you contemplating signing new continuing contracts with the funds requested for fiscal year 1953?

Mr. BOUSQUET. No, sir; there are no new continuing contracts proposed with funds requested for fiscal year 1953.

Mr. FORD. With the funds requested for fiscal 1953 will you be allocating anything to continuing contracts now in existence?

Mr. BOUSQUET. There does not appear to be any. I would like to verify that and correct it in the record.

Mr. FORD. When you do, will you put in the amounts?

Mr. BOUSQUET. Yes, sir.

(The information requested is as follows:)

CONTINUING CONTRACTS NOW IN EXISTENCE

EAST ST. LOUIS, MO.

There are no funds included in the 1953 approved budget estimate for East St. Louis which will be allocated to continuing contracts now in existence.

FARM CREEK RESERVOIR, ILL.

Mr. KERR. We will now turn to the Farm Creek Resevoir, Ill. The total estimated Federal cost is $10,384,500; allotments to date are $9,455,200. The amount requested for 1953 is $929,300, which will finish this project next year; is that correct?

General CHORPENING. Yes, sir; with the allotments we have received, we will bring this project to 91 percent of completion, and with the $929,300 requested in 1953, which it is proposed to use entirely on channel improvements of the Farm, Cole and Kerfoot Creeks, the project will be completed.

In this instance, two small detention dams have been built, and to realize the full benefit of those dams it is essential that the channel be improved in order to get the discharge that is contemplated through it, and, as I stated, this amount is to be used to do that work.

The cost to benefit ratio of this project is 3.29 to 1.

Mr. KERR. And $929,300 will complete the project?

General CHORPENING. Yes, sir.

Mr. FORD. There was no change in the estimated cost of this project from last year?

General CHORPENING. No, sir.

Mr. FORD. What is the explanation of that, General?

CONTINUING CONTRACT

General CHORPENING. The contract for this work is a continuing contract that had been awarded, so that there could be no change in the estimated cost unless the work had been beyond what we had estimated, which apparently it is not.

BENEFIT-TO-COST RATIO

Mr. FORD. How do you account for the increase in the benefit-to-cost ratio from 2.68 to 1 to 3.29 to 1?

General CHORPENING. This more favorable economic ratio is accounted for by the magnitude of the planned industrial expansion in the East Peoria area, the extent of which expansion was not visualized when the authorizing document was prepared, and so it was not taken into account. The plant expansion program in the East Peoria area which is subject to flood from Farm Creek Reservoir, which has been accomplished since 1947, amounts to $50 million.

MAINTENANCE COSTS

Mr. FORD. When this project is completed, will there be any maintenance cost so far as the Federal Government is concerned?

General CHORPENING. The terms of local cooperation required of local interests are that they will provide adequate maintenance of channels in the existing and added structures and prescribe and enforce such regulations as may be necessary to prevent encroachment, provide necessary rights-of-way and the bridge alterations required for the proposed channel improvements. The estimated cost to the local interests of the items required as part of the construction is $200,000.

The maintenance of the reservoirs is a Federal responsibility.

Mr. FORD. What will that average maintenance cost be?

General CHORPENING. We are asking for $15,000 this year; or I should say we estimate it will be $15,000 for the two reservoirs.

Mr. FORD. The unobligated balance on June 30, 1951, was $78,144, and on December 31, 1951, the unobligated balance was $43,285. Last year $1,500,000 was appropriated. Was all of that amount obligated immediately?

Mr. BOUSQUET. Yes, sir. We had a continuing contract last year, and that was obligated on that continuing contract.

GRAND TOWER DRAINAGE AND LEVEE DISTRICT, ILLINOIS

Mr. KERR. We will turn next to the Grand Tower drainage and levee district, Illinois. It appears the total estimated Federal cost is $4,446,000; allotments to date have been $2,999,700; and you are asking for $800,000 for 1953.

What do you have to say about this project, General?

General CHORPENING. This project is similar to the other levee projects we have been discussing. With the $800,000 that is being requested for 1953 we propose to utilize the majority of the funds for levee embankment and gravity drainage measures. It will bring the project to 85 percent of completion and leave $646,300 necessary in later years to complete the project.

BENEFIT-TO-COST RATIO

Mr. FORD. What is the benefit-to-cost ratio on this project?

General CHORPENING. 1.4 to 1.

ANNUAL BENEFITS

Mr. FORD. What are the annual benefits to be derived?

General CHORPENING. $260,800 of flood control.

Mr. FORD. Do you have those benefits broken down any father than that?

General CHORPENING. No, sir.

Mr. FORD. There must be a breakdown somewhere.

General CHORPENING. That is all flood control, Mr. Ford. It is not normal on a project of this type that we would have any further breakdown.

Mr. FORD. Was this project included in the budget submitted by the Corps of Engineers to the Bureau of the Budget, I mean the original submission that was made for the fiscal year 1952?

General CHORPENING. Yes, sir.

Mr. FORD. How much did the corps request at that time?

General CHORPENING. $500,000.

Mr. FORD. And that $500,000 was denied by the Bureau of the Budget for the fiscal year 1952 originally?

General CHORPENING. That is correct, sir.

Mr. FORD. Subsequent to and following the Kansas-Missouri flood, the Bureau of the Budget approved $500,000 for this project and the President then submitted that amount to the Congress?

General CHORPENING. $800,000.

Mr. FORD. $800,000?

General CHORPENING. Yes, sir.

Mr. FORD. And the Congress subsequently approved that amount?

General CHORPENING. Yes, sir.

EMERGENCY MEASURES

Mr. FORD. In other words, as far as the Budget was concerned, the need for this project came after the fact?

General CHORPENING. The need for the project became more urgently apparent in view of the extremely high water that occurred last July.

Mr. FORD. Prior to the fiscal year 1952, when was the last appropriation for this project?

General CHORPENING. I think we will have to supply that for the record.

(The matter referred to is as follows:)

The amount of $200,000 was made available to the project from appropriations for fiscal year 1951.

COMPLETION DATE OF PROJECT

Mr. FORD. When do you expect to complete the project?

General CHORPENING. It is scheduled for completion in the fiscal year 1954.

Mr. FORD. Has there been any change in the total estimated cost of this project?

General CHORPENING. No, sir.

Mr. FORD. How do you account for that?

General CHORPENING. We account for that because our review of the unit costs for the remaining work indicates that we have provided sufficient funds in our estimates to take care of the work remaining. The estimate previously presented to the Congress was based on July 1951 prices.

Mr. FORD. Again, in the justifications, it seems to me that the main justification for this project is the protection of railroad tracks, particularly the Missouri Pacific. I presume there is no contribution in this case by the Missouri Pacific?

General CHORPENING. There is no direct contribution here. As to whether or not any modifications have had to be made to the railroad as a result of this, I do not know.

Mr. FORD. According to the justifications, $191,000 was allocated to railroad alterations.

General CHORPENING. That is correct; and, of the funds available in 1952, $98,000 were allocated to those alterations.

Mr. FORD. What was the type of alteration?

General CHORPENING. Those consisted of raising tracks and bridges to pass over the levees, and I would gather from that that the railroads were put to some expense on their part to raise their trackage to come up to the actual crossing over the levees.

Mr. FORD. That is all, Mr. Chairman.

Mr. KERR. If the amount of $800,000 is allotted in this bill, that will just leave $646,300 necessary to complete the project?

General CHORPENING. Yes, sir.

PRAIRIE DU ROCHER AND VICINITY, ILLINOIS

Mr. KERR. We will turn next to the project, "Prairie du Rocher and vicinity, Illinois." The total estimated Federal cost of this project is $3,807,000. The amount allotted to date is $3,100,000. The appropriation for 1952 was $900,000, and you are asking now for the sum of $707,000, which will complete the project. Give us a statement on this project, General.

General CHORPENING. We are asking for 1953 for $707,000, which will complete this project.

This is another levee on the Mississippi River, similar to those previously described and considered, and, with the funds requested for 1953, the project will be completed.

Those funds will be allocated principally to levee embankment, and to seepage-corrective measures.

The cost-benefit ratio of this project is 2.15 to 1.

COST ESTIMATES

Mr. FORD. Has there been any change in the cost estimate on this project, General?

General CHORPENING. No, sir.

Mr. FORD. And the funds proposed for the fiscal year 1953 will complete the project?

General CHORPENING. Yes, sir.

Mr. FORD. Was there a request by the Corps of Engineers in this case to the Bureau of the Budget at the time the Corps of Engineers submitted their budget to the Bureau of the Budget for the fiscal year 1952?

General CHORPENING. Yes, sir.

Mr. FORD. How much did the Corps request at that time?

General CHORPENING. $500,000.

Mr. FORD. Subsequently, after the Kansas-Missouri flood a request for $900,000 was submitted by the Bureau of the Budget on behalf of the President to the Senate?

General CHORPENING. Yes, sir.

Mr. FORD. And Congress approved it?

General CHORPENING. Yes, sir.

Mr. FORD. In other words, the Corps of Engineers was somewhat cognizant of the emergency as far as this area was concerned prior to the Missouri-Kansas flood?

General CHORPENING. Yes, sir. As reflected in our request for funds, we felt that these projects we have been describing here were of sufficient importance to ask for funds for continuation of construction.

Mr. FORD. I notice that $250,000 of the funds for this project have been allocated for railroad alterations. Would you supply for the record what railroad alterations were made?

General CHORPENING. These alterations consisted of shifting the main-line tracks of the Missouri Pacific Railroad Co. and passing Prairie du Rocher Creek under the railroad tracks at the town of Prairie du Rocher, and that work was done by the Missouri Pacific Railroad Co. under contract with the Federal Government.

ANNUAL BENEFITS

Mr. FORD. According to the justification, the average annual benefits of the project are estimated to be $333,500. Do you have any breakdown of those benefits showing how you arrived at them?

General CHORPENING. That is all flood-control benefit.

That is arrived at by determining the estimated value of the land, improvements, and facilities that are protected by the levee, from our records of floods and flood heights that have occurred over past years, determining how much damage would occur to those im-

provements were the levee not in place, and spreading that over the period and bringing them down to an annual basis.

Mr. FORD. You do not have any breakdown, then, as to the percentage of damage on an annual basis for railroads, agricultural lands, industries, and so forth?

General CHORPENING. No, sir.

I may say that in arriving at these benefits we compute them on a direct-benefit basis and do not take into account the secondary benefits that might extend away back. In other words, if it is a railroad out of commission, there are a great number of things that happen with an area of damage away beyond the area where the flood occurs. We do not include those in arriving at these amounts.

WOOD RIVER DRAINAGE AND LEVEE DISTRICT, ILLINOIS

Mr. KERR. Now we will turn to the Wood River drainage and levee district, Illinois, project. The total estimated Federal cost of this project is $12,152,000. There has been allotted to date $6,401,000. The appropriation for 1952 was $915,000, and the appropriation you are requesting now is $1,100,000.

General, we will be glad to hear your justification for this work.

General CHORPENING. This is another levee project similar to those previously discussed and considered. With the $1,100,000 that is requested for 1953, the project will be brought to 62 percent of completion.

Of the amount asked for in the fiscal year 1953, the largest items to which it will be allotted are levee embankment and gravity drainage structures and pumping plants. The cost-benefit ratio of this project is 1.5 to 1.

Mr. FORD. Has there been any change in the cost estimate of this project since last year?

General CHORPENING. No, sir.

Mr. FORD. And no revision in the benefit-to-cost ratio?

General CHORPENING. I would have to check on that for the record.

(The information requested appears as follows:)

Based on average annual benefits of $692,000 the benefit-to-cost ratio for last year was 1.3. A reanalysis of the project benefits indicates that benefits will average $805,000 annually. This increase in project benefits brings the benefit-to-cost ratio to the figure of 1.5 now being used.

Mr. FORD. Did the Corps of Engineers at the time it submitted its budget for 1952 include any funds for the "Wood River drainage and levee district, Illinois"?

General CHORPENING. Yes, sir.

Mr. FORD. How much was requested?

General CHORPENING. $800,000.

Mr. FORD. How much was allotted by the Bureau of the Budget originally; nothing?

General CHORPENING. Nothing.

Mr. FORD. Did the Budget subsequently request funds for this project?

General CHORPENING. Yes, sir.

Mr. FORD. How much was the request?

General CHORPENING. $1,500,000.

Mr. FORD. And Congress appropriated $915,000?

General CHORPENING. Yes, sir.

Mr. FORD. The supplementary request followed the Kansas-Missouri flood; did it not?

General CHORPENING. Yes, sir.

CONTINUING CONTRACTS

Mr. FORD. How many of the contracts for the fiscal year 1952 which will extend through the fiscal year 1953 are continuing contracts?

Mr. BOUSQUET. There is only one continuing contract for a pumping plant, in the amount of $525,000 scheduled for award in June of 1952, which extends into 1954.

Mr. FORD. Can you supply for the record how much of the fiscal-year-1953 funds are to be applied to continuing contracts which were initiated with the fiscal-year-1952 funds?

General CHORPENING. Yes, sir.

(The matter referred to is as follows:)

The amount of $485,000 will be required in connection with a continuing contract for a pumping plant to be initiated with fiscal-year-1952 funds.

NEW ALBANY, IND.

Mr. KERR. We now have the New Albany, Ind., project. It appears here that the total estimated Federal cost of this project is $6,295,000. The amount allotted to date is $5,663,300. The appropriation for 1952 was $575,000, and the tentative allocation for 1953 is $631,700.

Tell us about this project, General.

General CHORPENING. This is a local flood-protection project at New Albany, Ind., for which we are asking this year $631,700, which will complete the project.

Of that amount the major portion will be applied to a continuing contract for the west section pumping plants.

This project has a cost-benefit ratio of 1.3 to 1.

Mr. KERR. This is just a local flood-control project?

General CHORPENING. Yes, sir; a local protection flood-control project, Judge.

Mr. FORD. General, the cost of the project has increased, I believe, $95,000. Can you give us an explanation of that?

General CHORPENING. Yes, sir. We advertised for a continuing contract on pumps, and higher bids were received than we had anticipated—however, bids within the allowable limit, and we have awarded the contract which accounts for the increase.

BENEFIT-TO-COST RATIO

Mr. FORD. What was the benefit-to-cost ratio of this project last year?

General CHORPENING. The benefit-cost ratio this year is 1.3 to 1.

Mr. FORD. I presume it would have decreased with the added cost.

General CHORPENING. I would estimate that it did.

I might mention that in 1952 we reduced the cost estimate of this project $1,600,000. Apparently we reduced it a little too much.

The cost-benefit ratio last year was 1.2 to 1.

Mr. FORD. How do you get an increase in the cost-benefit ratio?

General CHORPENING. We have reevaluated the benefits.

Mr. FORD. I think it would be interesting for the record to show just how you went about the reevaluation of the benefits. In other words, show with some degree of detail just on what basis the benefits have been increased.

General CHORPENING. I believe it would be desirable to present a statement which would be applicable to all of these, a general statement, perhaps elaborating a little more than I have in my answers, as to how we do this reevaluation. We can supply that for the record.

Mr. FORD. I think in most cases you can see how it would be possible, but when you get this kind of a case where the cost goes up and the benefit goes up rather substantially I think there ought to be some explanation of it in the record in the individual instance.

General CHORPENING. Of course, in this instance, with the cost going up $95,000, which is less than approximately 1½ percent, it would not have too much effect on the cost-benefit ratio.

Mr. FORD. I cannot deny that, but I also think that where you have cross currents there it would just be helpful for the record to have some explanation as to what brought about the revision.

General CHORPENING. I shall be glad to furnish that, sir.

(The matter referred to is as follows:)

STATEMENT ON REEVALUATION OF BENEFITS

The evaluation of benefits during the formulation of a project and the preparation of a survey report is based upon the conditions existing at that time and upon price levels generally applicable to the benefit items. For example, the evaluation of the prevention of flood damage is based upon the estimated cost of repairing the damage at price levels existing at the time of the study. The total amount of damage and the average annual damage are based upon the flood-frequency study which takes into account all floods which have occurred up to the time of the economic study.

With the passage of the years, the basic units in the evaluation study are subject to change. Price levels in the recent past have been steadily increasing and an evaluation of the benefits to be expected from the prevention of flood damage made several years after the preparation of the survey report should take into account the cost of repairing the damage based upon the cost of such repairs existing at the time the work is done. Also, quite often additional floods occur between the time of the original economic study and the time of the reevaluation. These floods may or may not affect the frequency analysis, but in any case they must be fully considered and if it appears that they are of significance a new flood-frequency analysis should be made taking into account the occurrence of all floods up to the time of the reevaluation.

In making the reevaluation of the benefits from prevention of flood damage, the basic data which entered into the computations in the survey report are reviewed and the necessary changes made to bring up to date the average occurrence of floods as reflected by the flood-frequency study and the annual loss due to flood damage based upon price levels existing at the time of the reevaluation study. Any other changes which might affect the original computation are taken into account and a new figure derived showing the average annual flood damage and the amount which would be prevented by the project being considered.

The foregoing principles apply equally to other items which enter the economic evaluation of projects, such as benefits from navigation, hydroelectric power production, low-flow regulation, pollution abatement, fish and wildlife, etc.

Because of the fact that price levels have generally been rising, the items which enter into the benefits computation have, upon reevaluation, increased commensurately. Depending upon the individual projects and the local situation, the increases in benefits after reevaluation tend to compensate for increased costs of construction.

The following data shows the comparison between the analysis of the estimated average annual costs and benefits for the New Albany, Ind., project for the fiscal years 1952 and 1953.

	Fiscal year 1952	Fiscal year 1953
Estimated average annual costs:		
Total estimated Federal first cost	$6,200,000	$6,295,000
Interest during construction (3 percent)	465,000	472,000
Total Federal investment	6,665,000	6,767,000
Estimated non-Federal first cost	465,000	465,000
Interest during construction (3½ percent)	40,000	40,000
Total non-Federal investment	505,000	505,000
Federal annual charges:		
Interest at 3 percent	200,000	203,000
Amortization	59,000	60,000
Surveys and inspection	2,000	2,000
Total Federal annual charges	261,000	265,000
Non-Federal annual charges:		
Interest at 3½ percent	18,000	18,000
Amortization	4,000	4,000
Operation and maintenance	25,000	28,000
Total non-Federal charges	47,000	50,000
Total Federal and non-Federal annual charges	308,000	315,000
Estimated average annual benefits:		
Direct benefit to existing facilities, operations, and activities	186,900	206,200
Indirect benefit to existing facilities, operations, and activities	94,400	104,200
Benefit to future development	32,400	35,800
Enhancement of property values	53,300	58,800
Total	367,000	405,000

Ratio of annual benefits to annual costs: Fiscal year 1952, 1.2 to 1; fiscal year 1951, 1.3 to 1.

VINCENNES, IND.

Mr. KERR. We come now to the Vincennes, Ind., project. The total estimated Federal cost of this project is $3,875,000. The allotments to date have been $390,000. The appropriation for 1952 was $300,000, and the tentative allocation for the fiscal year 1953 is $600,000.

General, justify this item, if you please, sir.

General CHORPENING. This is a local flood-protection project for the city of Vincennes, Ind. It is a portion of the flood-protection system on the Ohio River that is below grade and this not only protects the city of Vincennes, but also valuable properties and industries in that vicinity.

There have been considerable defense industries come into this vicinity in fairly recent times, and the value of the industries and lands protected is quite considerable, which accounts for the most favorable cost-benefit ratio here of 4.4 to 1.

With the funds requested for the fiscal year 1953, $600,000, we propose to start section A, part 2, levee and wall under a continuing contract, and to start alteration of a railroad bridge, and proceed with a continuing contract let with 1952 funds on part 1, section A, levee and wall.

CONTRIBUTION FROM RAILROAD

Mr. FORD. Is the B. & O. Railroad making any contribution to the bridge relocation?

General CHORPENING. No; they are not required to contribute anything. Whatever their contribution might be would be changes to conform to what changes we might make in connection with the alteration of the bridge.

Mr. FORD. Will not the construction of a new bridge, or the alterations to it, result inevitably in some betterment, as far as the railroads are concerned?

General CHORPENING. I could not say that unless I knew in detail just the nature of the alterations being made. The local railroad has a structure there now that is very satisfactory to them.

Mr. FORD. Part of the project proposed for 1953 entitled "Alteration of Railroad Bridge," amounting to $100,000, is the initiation of a new portion of the over-all project; is that correct?

General CHORPENING. That alteration is in connection with, and between sections A and B of the project and must be started so that we can proceed with our work on section A and have the work done currently.

Mr. FORD. On section A, part 1, levee and wall at a total cost of $360,000, you plan to spend $90,000 to complete the contract during the fiscal year 1953?

General CHORPENING. Yes, sir.

Mr. FORD. Section A, part 2, levee and wall, involves a total cost of $660,000, and you anticipate the initiation of a continuing contract at an estimated cost of $390,000 in the fiscal year 1953?

General CHORPENING. Yes, sir.

Mr. FORD. Will the alteration of the railroad bridge entail the initiation of a continuing contract?

General CHORPENING. Yes, sir.

Mr. BOUSQUET. Yes, sir; it would entail the initiation of a continuing contract with $100,000 in the fiscal year 1953.

STATUS OF DEFINITE PROJECT REPORT

Mr. FORD. What is the status of the definite project report in this case?

General CHORPENING. The definite project studies are now underway and will be completed this coming summer.

MONDAY, JANUARY 28, 1952.

FLOODS IN KANSAS

Mr. RABAUT. General Chorpening, before we take up the first project in Kansas, will you tell us what the final estimate of damage, both to the economy of the area in property losses, and to your structures and installations was as a result of the 1951 floods?

General CHORPENING. Mr. Rabaut, I do not have those complete figures here, but I can supply them for the record, or I can have them available later on this afternoon, if you wish.

Mr. RABAUT. Please supply the information for the record.

(The information requested follows:)

The total direct flood damages resulting from the 1951 floods in the Kansas-Missouri area are estimated at $930,000,000 including $18,600,000 in damages to civil-works structures of the Corps of Engineers.

REPAIR OF INSTALLATIONS DAMAGED

Mr. RABAUT. What plans did you make for the repair of damaged installations and when is this work to be completed?

General CHORPENING. Immediately after the flood of last June we moved in to determine the damages that had been done to structures built both by us and by local interests and then we started immediately to effect repairs.

Some of the structures, for instance, at the Kansas Citys that had large damages done to them had a complete check made on their condition. Plans were prepared for the necessary repairs and advertised.

We have made excellent progress on those repairs and we will have those structures restored to their previous grade and section by June 1, 1952.

We do that work with our emergency funds that are given to us annually for the repair of flood-control structures.

WEATHER CONDITIONS

Mr. RABAUT. Can you tell us now the present weather conditions in this area including the snow on the ground and any estimate that you have as to the outlook for spring floods?

General CHORPENING. This has been a rather severe winter in that vicinity. There has been considerable snowfall in that territory. As to a prediction as to whether or not this may result in flood conditions this summer, we would like to make a further study, a current study of the situation and supply the information for the record.

(The information requested follows:)

The forecast of floods considerably in advance of their actual occurrence is very difficult due to the many factors involved in producing excessive runoff such as soil conditions, type and intensity of precipitation, water content of snow cover, timing, etc. In view of the heavy snowfall in the South Dakota-North Dakota area, it is highly possible that conditions could obtain whereby intense rainfall would be so timed with a rapid thaw of that snow cover as to produce floods of a serious nature. However, as indicated above, the actual occurrence of a flood in this area at some future date will depend on a number of factors other than the fact that a heavy snow cover now exists.

LOCAL INTEREST

Mr. RABAUT. Will you also list for the record the local protection projects in this area with the date of their authorization, the date any of them were deauthorized and a comment on the cooperation of local interests in having these projects constructed prior to the recent flood, including a desire to furnish their share of the funds as required by existing laws or customs?

General CHORPENING. I can make now a very brief general statement on that, but I would like to furnish more detailed information for the record.

(The statement referred to follows:)

Data concerning the authorized local protection projects in the Kansas River Basin are as follows:

Name of project	Authorization act	Comments on local cooperation
Kansas Citys, Mo. and Kans.	1936 and 1944 Flood Control Act.	Local people were highly in favor of the project before and after the 1951 flood.
Topeka, Kans	1936 Flood Control Act.	Local people were in favor of the south portion of the project and this unit has been constructed. In connection with the plan for the north unit, the local people outside of this unit initiated litigation to stop construction. The Corps of Engineers studied and proposed a new plan as outlined in the Kansas River report, House Document 642, 81st Cong., 2d sess., now before Congress, which was believed to meet the requirements of the area at that time. It has since developed that the people of the drainage district do not favor the proposed plan for diversion of Soldiers Creek. A revised plan is being developed based on the additional data gained from the 1951 flood. It is believed that local interests desire the revised plan.
Lawrence, Kans	1936 Flood Control Act (Deauthorized May 6, 1951).	Subsequent to authorization local people decided to use the protection to be afforded by the raising of a railroad. This protection approached that to be afforded in the authorized plan for Lawrence, Kans. Additional flood protection by means of bank-protection works was studied in connection with the Kansas River report, House Document 642, 81st Cong., 2d sess., now before Congress. This plan was very favorably received by local interests. A revised plan is being developed based on the additional data gained from the 1951 flood. It is believed that local interests are favorable to such a revised plan.
Bartley, Nebr	1941 Flood Control Act.	This project is essentially complete.
Indianola, Nebr	do	This project has been completed.

In addition to the projects listed above which were authorized under normal procedure, a local-protection project, Stonehouse Creek, Kans., was authorized pursuant to the special legislation contained in section 212 of the 1950 Flood Control Act. This project is now under way and local people are very much in favor of construction of the project.

PROJECTS IN OPERATION DURING FLOOD

Mr. RABAUT. I believe that the Kanopolis project is a completed project, and was in operation during the recent flood. Do you own flowage rights at this reservoir, and if not, please tell us now or file for the record a statement showing the estimated costs of those rights, the need for them, and why they have not been purchased to date, if there is a need for them?

General CHORPENING. At the reservoir itself, which is completed, the lands required have been purchased in fee simple in accordance with our policy, that is, the land for the reservoir and the dam site itself.

I take it that the question refers to lands below the reservoir. We have not, to my knowledge, procured any lands below the reservoir either for flowage rights or in fee simple. It is not the policy to do so. We propose to discharge the impounded flood waters at a rate from the reservoir which will generally not exceed the bank-full stage of the channel downstream. On that account, therefore, we have not done here, nor have we anywhere else, considered procuring flowage easements or rights downstream from the reservoir.

Mr. RABAUT. Did this project function well during the recent floods?

General CHORPENING. It functioned very well in the recent flood. There were, as you will probably recall, during the floods of last year, a number of storms in that vicinity. The first heavy storms were completely held, resulting in preventing a great amount of damage because water was held in the Kanopolis Reservoir. But heavy rainfall occurred downstream from the reservoir, which did cause considerable flooding downstream. This flooding was, however, much less than it would have been had Kanopolis not been in operation.

EXTENT OF REPAIR WORK

Mr. KERR. How will the construction work you have done since the flood on repairs compare with the installations in place prior thereto?

General CHORPENING. It will be when completed at least equal to what was there before.

Under our emergency authorization we can place work that has been damaged back to the grade and section and strength to which it was before the damage was done by the flood, and that work was all done under our emergency authorization and funds.

In our justification sheets we are asking for funds to continue the local flood-protection project at the Kansas Citys, those portions which had not been completed prior to the flood last year.

HUTCHINSON, KANS.

Mr. RABAUT. We will take up now the Hutchinson, Kans., project, which has a total estimated Federal cost of $4,726,000. Allotments to date have been $2,180,000. There was appropriated last year $1,900,000, and there is a tentative allocation for 1953 of $1,824,000.

This project as of the close of 1952 will be 46-percent complete, and the money requested for 1953 will bring the percentage to 85.

General Chorpening, will you give us a statement on the accomplishments to date, and what you expect to do with the $1,824,000 requested for fiscal 1953?

General CHORPENING. This is a local flood-protection project for the city of Hutchinson, Kans. In that connection, it will be noted that there are a number of railroad relocations required to make the project effective, and of the amount requested for fiscal year 1953, $420,000 we propose to put into construction under lot II, with a continuing contract, and the remainder of the funds will go into railroad relocations.

Mr. RABAUT. Will you supply for the record the status of each railroad relocation, giving the estimated cost of and the progress of the negotiations?

General CHORPENING. We will do that.

(The information requested follows:)

STATUS OF RAILROAD RELOCATIONS, HUTCHINSON, KANS.

The estimated cost of the railroad relocations required in connection with the Hutchinson project and the status of negotiations for these relocations is as follows:

Feature	Estimated cost	Remarks
Atchison, Topeka & Santa Fe Ry., Ellinwood branch, lot I, across loop levee.	$31,000	Negotiations have not been started. Work is scheduled after fiscal year 1953.
Missouri-Pacific R. R., Geneseo branch, lot I, across loop levee.	31,000	Do.
Chicago, Rock Island & Pacific R. R., lot III, alteration of spur tracks south of Hutchinson.	65,000	Do.
Atchison, Topeka & Santa Fe Ry., Chicago, Ill., to Los Angeles, Calif., main line, lot II, Arkansas River, including extension of existing bridge (434 lineal feet).	129,400	Construction has not yet been started. A continuing contract was signed by the railroad in 1950 but held in abeyance due to limited funds. Additional information concerning relocation is now under study. No difficulty anticipated in negotiating new contract.
Atchison, Topeka & Santa Fe Ry., Hutchinson and Southern branch, lot II, Arkansas River, including 1 bridge (1,008 lineal feet).	244,700	Do.
Atchison, Topeka & Santa Fe Ry., Ellinwood branch, lot II, Cow Creek diversion canal, including 1 bridge (595 lineal feet).	421,900	Do.
Missouri-Pacific R. R. Geneseo branch, lot II, Cow Creek diversion canal, Arkansas River, and Chicago, Rock Island & Pacific R. R. crossing, including extension of 2 bridges (637 lineal feet) and 1 new bridge (588 lineal feet).	1,015,000	A contract for the Missouri-Pacific R. R., lot II, has been approved. Construction not started.
Chicago, Rock Island & Pacific R. R., lot II, Chicago, Ill., to Los Angeles main line, Arkansas River, and Harsha drainage canal, including 2 bridges (1,374 lineal feet).	1,077,000	A contract for the Chicago Rock Island & Pacific R. R., lot II, has been approved. Construction not started.
Total	3,015,000	

LOCAL CONTRIBUTIONS

Mr. RABAUT. What are the contributions of the local interest to date on this project, and what is anticipated in the future?

General CHORPENING. The land is to be furnished by local interests as well as any highway relocations that have to be made. And the usual requirements of local cooperation for local flood-protection projects apply in this instance. The city has already acquired rights-of-way for a portion of the project that would protect the city proper, and the estimated over-all amount that the city will have to spend on this is $2,110,000.

Mr. RABAUT. The local interest is responsible for the raising of the bridges?

General CHORPENING. Yes, sir.

Mr. RABAUT. Will you file for the record a statement of the extent of participation of the railroads in relocations involved in this project.

General CHORPENING. Yes.

(The information requested follows:)

There is no cost involved for the railroads in connection with the relocations for the Hutchinson project except for the added cost for operation and maintenance. No estimate of this additional cost has been made.

AMORTIZATION OF BRIDGES

Mr. RABAUT. Is amortization customarily figured in the reconstruction of railroad bridges?

General CHORPENING. No.

Mr. RABAUT. Why not?

General CHORPENING. It is not required in the law governing the local flood-protection project.

Mr. RABAUT. Have the engineers ever suggested that the law be amended? It seems to me if the bridge of a railroad is to be replaced and be in better condition than those that would have been in the flooded area, they should bear part of the cost.

General CHORPENING. No suggestion has been made that I know of. I think that that has been the subject of considerable discussion in testimony before the Public Works Committee at various times.

COW CREEK

Mr. RABAUT. Are local interests satisfied with reference to the Corps of Engineers' plan on this project for Cow Creek?

General CHORPENING. I know of nothing wherein the local interests are not entirely satisfied with the project as it stands.

SOUTH HUTCHINSON

Mr. RABAUT. To what extent are the people of South Hutchinson participating in this project?

General CHORPENING. As far as I know they are not participating at all.

Mr. RABAUT. Is this area included in the authorized project?

General CHORPENING. Yes; but I believe the city of Hutchinson is paying the freight. I would like, however, to check that more completely, and I may wish to amend my statement. I know that there are quite a little difference of opinion between Hutchinson proper and South Hutchinson in connection with the project.

There was a difference of opinion between two parts of the city.

Mr. RABAUT. If they do not participate, what will be the effect of construction of levees on the Hutchinson side of the river for which funds have been requested?

General CHORPENING. If they do not participate, and levees are built on one side of the river, obviously there is likely to be some additional water on the south side of the river.

Mr. RABAUT. Do you consider it essential to the people of South Hutchinson that that portion be furnished new works?

General CHORPENING. It seems to me that is a matter for the local people to work out for themselves. What I would like to do, Mr. Rabaut, is to review the whole situation and supply a statement for the record on that.

(The information requested follows:)

The city of South Hutchinson by resolution dated December 4, 1951, withdrew the objections filed in 1946 with the State division of water resources. South Hutchinson and Hutchinson are in the process of complete agreement for the sponsorship of lot III. It is anticipated that the rights-of-way and other local cooperation requirements will be forthcoming within the calendar year 1952.

The superior court has authorized Hutchinson to purchase the rights-of-way for lot I and the city will do so when construction is initiated on lot II and the city of Hutchinson will buy the rights-of-way for lot III when needed for construction purposes.

EXPENDITURES OF FUNDS REQUESTED

Mr. RABAUT. How do you propose to obligate the unobligated balance of $1,659,000 on this project between January 1 and June 30 of 1952?

Mr. BOUSQUET. These funds will be obligated for the initiation of the continuing contract on lot I, north levee, diversion canal and drainage structure, in the amount of $420,000.

A contract for the relocation of the Missouri-Pacific Railroad, lot II, in the amount of $435,000.

The relocation of the Chicago, Rock Island & Pacific Railroad, lot II, continuing contract in the amount of $397,000.

And a continuing contract for the relocation of the Atchison, Topeka & Santa Fe Railroad, lot II, in the amount of $379,000.

Mr. FORD. General Chorpening, this project was not included at the time the budget was first submitted for fiscal year 1952?

General CHORPENING. No, sir.

Mr. FORD. It was subsequently submitted by the Bureau of the Budget to the Senate at the time the hearings were held before that body?

General CHORPENING. Yes, sir.

Mr. FORD. Did the Corps of Engineers submit a request to the Bureau of the Budget for the fiscal year 1952 for this project?

General CHORPENING. No, sir; not in our original budget submission.

DAMAGE AT HUTCHINSON

Mr. FORD. What damage was done to the Hutchinson area as a result of the flood in 1951 in the Kansas and Missouri area?

General CHORPENING. During the flood of 1951, in the vicinity of Hutchinson, the previous maximum flood height was exceeded by 1.1 foot.

The flood, however, at Cow Creek, which is a tributary of the Arkansas that flows into the main river just to the west of the city, was minor during high flood stage in the Arkansas River and therefore the maximum flood disaster to the city of Hutchinson did not occur. However, this project would have prevented $160,000 of damages which were experienced during the flood last year.

Mr. FORD. Where on the map is Hutchinson? Is it in the general flood area in 1951?

General CHORPENING. It is in the Arkansas River Basin, rather than the Kansas River Basin.

PROTECTION TO SOUTH HUTCHINSON

Mr. FORD. In the project which the Federal Government is now constructing, is there any protection afforded to South Hutchinson?

General CHORPENING. In the autrohized project a levee is included to protect the city of South Hutchinson.

Mr. FORD. But in the project that is now being constructed, that levee is not contemplated?

General CHORPENING. Yes; it is contemplated, and is lot III as indicated in the budget sheet on page 234.

Mr. FORD. At a cost of $180,000?

General CHORPENING. Yes, sir.

Mr. FORD. That is programed for the fiscal year after 1953?

General CHORPENING. Yes, sir

Mr. FORD. Would the local interests in South Hutchinson have to make any contributions toward construction?

General CHORPENING. The rights-of-way must be provided.

Mr. FORD. They have not been provided as yet?

General CHORPENING. I believe that is correct.

Mr. FORD. The Federal Government will not undertake the construction of lot III until those contributions have been made?

General CHORPENING. That is correct, and the present status of that will be included in the statement that I am going to submit for the record in answer to a previous question.

RAILROAD RELOCATIONS

Mr. FORD. Is there any possibility of deferring some of the railroad relocation even with the construction of the protection works?

General CHORPENING. I do not think so, because the railroad relocations are necessary to get the railroads over the levees and floodways that we are going to build. Unless that were done you would not have a proper flood protection project.

Mr. FORD. According to the previous testimony, the local interests are making a contribution and the railroads are not for the relocations?

General CHORPENING. The railroads are not making any contribution as to the direct structures over the levees. As to whether or not the railroads are being placed to some expense to their lines leading up to or going away from, I do not know. Further, the same laws apply here as to the relocations that are used in building betterments, and any betterments will be charged to the railroads.

In other words, we must give the railroads at least what they have already had.

Mr. FORD. Will you include in the record at this point a copy of the legislation which provides that the railroads in relocations cannot be charged any part of the cost themselves?

General CHORPENING. That would be in the flood-control law which we can include in the record; yes, sir.

Mr. FORD. That policy must be based on some basic law.

General CHORPENING. We will put into the record the applicable law.

(The information requested follows:)

Section 3 of the 1946 Flood Control Act is quoted as follows:

"That hereafter for authorized flood-protection projects which include alterations of railroad bridges the Chief of Engineers is authorized to include at Federal expense the necessary alterations of railroad bridges and approaches in connection therewith."

MAINTENANCE OF PROJECTS

Mr. FORD. Once this project is completed, who will maintain it?

General CHORPENING. The local interests must maintain it.

BENEFIT-TO-COST RATIO

Mr. FORD. Has there been any change in the benefit-to-cost ratio on this project?

General CHORPENING. It is 1.37 to 1. I would have to check to see if there has been a change since this was last presented to the Congress. It was not presented in the regular request last year.

Mr. FORD. Will you supply that information for the record?

General CHORPENING. Yes, sir.

(The information requested follows:)

The benefit-to-cost ration for Hutchinson, Kans., for last year was 1.37.

ESTIMATED COST OF PROJECT

Mr. FORD. Last year we did not have any testimony before this subcommittee on this project, and consequently we have no estimate of the cost. What was the estimated cost of the project?

General CHORPENING. The same as the present estimated cost—$4,726,000.

Mr. FORD. There is no increase in the estimate this fiscal year?

General CHORPENING. No, sir. That estimate was submitted last summer and was based on July 1951 prices.

KANSAS CITYS ON MISSOURI AND KANSAS RIVERS, MO. AND KANS.

Mr. RABAUT. We will take up the Kansas Citys on Missouri and Kansas Rivers, Mo. and Kans.: This is a project with a total estimated Federal cost of $41,805,000. There have been allotted to date $34,817,100. The 1952 appropriation was $4,500,000. The tentative allocation for fiscal year 1953 is $3,750,000.

This project, as of the close of fiscal year 1953 will be 83 percent complete, and with the money requested for 1953, the percentage of completion will be 92.

Please give us the justification for the request, General.

General CHORPENING. This is a local protection project at the Kansas Citys, and of the amount requested for fiscal year 1953 we propose to spend $830,000 on the Armourdale unit; $1,070,200 on the bridge and approaches, alterations, Kansas River unit; and smaller amounts on other units of the project.

This project was rather heavily damaged in the flood of last year, and as I stated earlier we expect that we will have all the repair work for those portions that have previously been completed, done by June of 1952.

And I might say that the damages resulting from the 1951 flood at the Kansas Citys are estimated to have been $461 million, and it is highly essential that we proceed to get this local protection project completed and the construction going ahead without any delay.

Mr. RABAUT. Are the funds requested herein to be used in connection with the rejuvenation of works damaged by the recent floods?

General CHORPENING. No; these are to build additional portions of the project.

LOCAL CONTRIBUTIONS

Mr. RABAUT. What are the local interests contributing to this project?

General CHORPENING. They must furnish the land and the adjustments to existing facilities. They have spent approximately $2,540,900 up to this time, and it is estimated the over-all requirement will be $2,675,000.

Mr. RABAUT. $2,675,000 more?

General CHORPENING. No, that is the total.

Mr. RABAUT. We will include in the record the portion of the justification appearing on pages 239, 240, and 241 under "Status."

(The statements referred to follow:)

STATUS

Argentine unit.—A contract for straightening the levees was awarded in June 1951; however, due to the extensive damage to the existing levee by floods during July, the contract has been terminated.

Armourdale unit.—The strengthening of a portion of the existing levees and floodwalls and construction of new levees and floodwalls downstream from the Seventh Street Bridge to the vicinity of the James Street Bridge was completed prior to the flood of July 1951. This flood overtopped the existing levees upstream from the new construction, inundating the entire area and causing extensive damage to the recently completed levees and flood walls.

Birmingham unit.—Construction is underway on the upper portion of the levees which are 85 percent complete. Some flood damage was experienced to the existing levees which will require realinement of a portion of the work.

Blue Valley industrial unit.—Engineering and design has been completed.

Bridge and approach alterations.—Raising of the Central Avenue, the James Street, the Kansas City Southern Railroad, and the Kansas City Stockyards bridges is completed. Work on the Chicago, Rock Island & Pacific and the Union Pacific Railroad bridges is substantially complete. Contracts with Wyandotte County, Kans., for the raising of the East Kansas Avenue Bridge and with the railroad for the raising of the Missouri Pacific bridge No. 72 have been agreed on and are in the process of administrative approval of the various participating parties.

Central industrial unit.—Construction on this unit was completed prior to the flood of July 1951. This flood overtopped the protection, inundated the area, and caused extensive and severe damage to levees, floodwalls, and pumping plants.

Channel improvement, Kansas River unit.—The removal of a foreshore bar and the stabilizing of the right bank of the Kansas River is complete.

Channel improvement, Missouri River unit.—Work has been initiated on the portion of this unit downstream from the A–S–B bridge. This work consists of excavating a wider river channel and bank stabilization and is 25 percent complete.

East Bottoms unit.—Construction of levees, floodwalls and three pumping plants is complete, and the construction of three other pumping plants is substantially complete.

Fairfax Jersey Creek unit.—The construction of levees and floodwalls was completed during fiscal year 1941. However, these require raising to withstand the designed flood. Contracts are under way for raising of the levees which is 26 percent complete; for construction of a reinforced concrete box within the Jersey Creek sewer, which is 30 percent complete and the third stage of the pressure relief well system, which is 28 percent complete.

Liberty Bend cut-off unit.—Construction of this unit was completed prior to the flood of July 1951. Flood waters washed out the north approach to the Liberty Bend Highway Bridge, destroyed a portion of the levees and river control structures and caused some damage to the highway bridge.

North Kansas City unit.—Construction on the airport section was completed prior to the flood of July 1951. This flood caused severe erosion to the river side of the levee opposite and slightly downstream from the mouth of the Kansas River. Construction of levees and two pumping plants in the downstream section is 18 percent complete.

PROPOSED OBLIGATION OF FUNDS

Mr. RABAUT. How do you propose to obligate the $3 million unobligated balance on this project between December 31 and the end of the fiscal year?

Mr. BOUSQUET. Levee and appurtenances for strengthening the protection works, $17,370 will be obligated in January.

There are a number of minor items.

Mr. RABAUT. What are they?

Mr. BOUSQUET. Jersey Creek, unit, $115,000 in February of this year, 1952.

Raising levee and appurtenance works, $4,842 in January of 1952.

Foothill levee and appurtenances, $28,000 in March of 1952. They are in the Argentine unit.

In the Armourdale unit, $270,000 in March of 1952.

Birmingham unit, levees and appurtenances, downstream, $109,000 in April of 1952.

Also in the Birmingham unit for under seepage control, $39,000 in June 1952.

Channel improvements, Missouri River unit, excavation and bank stabilization, part 2, $368,840 in March of 1952.

Also Missouri River unit, the A. S. B. bridge, $297,000 in April of 1952.

Hannibal bridge extension, $218,000 in April of 1952.

Fairfax-Jersey Creek pumping plant alterations, $380,000 in June of 1952.

Floodwalls and stop-log gaps, $470,000 in June of 1952.

The remainder is Government cost for hired labor, and for work on a number of minor units.

Mr. RABAUT. What was the last previous item you gave?

Mr. BOUSQUET. Pumping plant alterations in the Fairfax-Jersey Creek unit, $380,000. Is that the one?

Mr. RABAUT. Yes. What work are you doing there?

General CHORPENING. We are altering the pumping plant to take care of the capacity of what we know from experience last year will be required.

Mr. KERR. General, here is a project estimated to cost $41,805,000, and you have already had allocated $34,817,000, which just leaves about $7 million to complete. Do you not think it would be good business judgment to go ahead and complete the project as soon as possible?

General CHORPENING. Extremely so, particularly in view of the experience we have just had this last year which proved how damaging high floodwaters can be to this vicinity.

May I add, Mr. Chairman, that normally we would probably obligate the funds appropriated last year at an earlier time. However, the district engineers' force has been so busily engaged getting the plans prepared and contracts let for the repairs to those portions that were damaged by the floods and that, of course, receives top priority, that they have not been able to act as rapidly as we otherwise would have in obligating these additional funds.

As you have just heard, we are hopeful that we will be able to obligate all of the available funds by the end of the fiscal year.

Mr. RABAUT. Has the definite project report been completed?

General CHORPENING. Yes sir.

BENEFICIAL RESULTS

Mr. FORD. There is a question im my mind, from reading the justifications, on the works that have been done so far in this area, were they beneficial and to what degree during the last flood?

General CHORPENING. The general answer is that the works that were in operation were beneficial, even though some of them were not completed. In spite of the magnitude of the flood, the works in operation were helpful in protecting the municipal airport and a large industrial section, and a large residential section. The damage prevented is estimated to be $136 million.

In addition to that, the damage prevented in the northeast industrial district, which includes many large industrial plants and several railroad yards, and a number of residences, are estimated to be $127 million.

Also in the Birmingham unit, which is largely a farming area, it is estimated that damages were prevented in the amount of $1,640,000.

They add up to a total of about $260 million of damages that were prevented by sections of the completed works.

Mr. FORD. How much in the way of emergency funds did you have to use to rebuild or reconstruct parts of this project?

General CHORPENING. Since some of work is not yet completed and still remains to be put under contract, I cannot give an exact figure at this time. It will probably be in the neighborhood of $8,000,000.

UPSTREAM WORK REQUIRED

Mr. FORD. It seems to me, at least according to the justifications, that this project will never be entirely adequate until the upstream work is completed. Is that correct?

General CHORPENING. That is correct. The grades established for the project levees and flood walls are based on the storage in the planned upstream reservoirs. To have made the grades of the levees, and the flood walls at Kansas City sufficiently high to protect this area without those reservoirs would have been an economic and practically an engineering infeasibility. All who have participated in the work for this local protective project have well understood that the project without the complementary reservoirs on the upstream tributaries would not protect against a flood that could happen.

Mr. FORD. How much of the complementary upstream work was completed prior to the flood of June of 1951?

General CHORPENING. Very little. I believe it would be of interest to the committee to have Colonel Hiatt point that out on the map.

Colonel HIATT. The Kansas Basin here is outlined in black and has been under study for a considerable time.

The authorized reservoirs that were completed prior to the 1951 flood are outlined in black here, and comprise the Harlan County Reservoir in southern Nebraska; the Cedar Bluff Reservoir in south-central Kansas, and the Kanopolis Reservoir just east of the Cedar Bluff Reservoir.

Those three reservoirs in the Kansas Basin were completed and operable prior to this flood.

Mr. FORD. They are all a part of the comprehensive program tied in with the flood protective works at Kansas City?

Colonel HIATT. They are a part of the over-all plan; yes.

I would like to correct one statement I made: Harlan County is not yet complete, but it was partially operable; it was partially operable for the flood; the other two, the Cedar Bluff and Kanopolis were complete.

Mr. FORD. Which of the projects that are a part of the comprehensive plan, were not operable at the time of the 1951 flood?

Colonel HIATT. Of the authorized projects?

Mr. FORD. Yes.

Colonel HIATT. There are several more. In the order of their importance, I would say, going up from the more heavily devastated area, I would say the Tuttle Creek, the Glen Elder, both of which are authorized, and the Kirwin, and the Wilson, which are authorized.

There are others named, that have been in the plan, principal contributors to the prevention of damage.

General CHORPENING. I would like to add to that, Mr. Ford, that a further revised survey has been made, or had been made of the Kansas Basin, and that report is now before the Public Works Committee of the House, which recommends an additional reservoir at Perry on the Delaware River, and Milford on the Republican River, and a modification of certain local protection projects.

Mr. FORD. Would it not have been more practicable to do the work upstream first before getting underway with all the local protection levees at Kansas City?

General CHORPENING. Normally we very much prefer to do that. The Tuttle Creek project has been authorized since 1938, and it was well known that local interests, many of them, objected strenuously to the construction of that reservoir.

In the meantime, the project a Kansas City was authorized; there was a tremendous concentration of industrial property and population in Kansas City who were willing, anxious, and able to go ahead, well understanding that the local protection project would not give them complete protection against a flood which we, the Corps of Engineers, told them could happen.

COST TO BENEFIT RATIO

Mr. FORD. Has there been any revision of the cost to benefit ratio on this project? Last year I do not recall that figure being given. This year the estimate seems to be 3.06 to 1.

General CHORPENING. Last year it was 2.74 to 1. It has increased slightly. In computing the new cost-benefit ratio of 3.06, we have not fully incorporated the experienced damaged of the last flood, and in my opinion when that is done, the cost-benefit ratio will be considerably higher.

Mr. FORD. There is an increase in the over-all cost of the project of $415,000. How do you account for that increase, General?

General CHORPENING. By a reanalysis of the related works, and by the increased over-all construction costs that exist in that territory.

MISSOURI RIVER AGRICULTURAL LEVEES, KANSAS, IOWA, MISSOURI, AND NEBRASKA

Mr. RABAUT. We take up next the Missouri River agricultural levees, Kansas, Iowa, Missouri, and Nebraska. This is a project with a total estimated Federal cost of $133,505,000. The allotments to date have been $26,299,600. The tentative allocation for fiscal year 1953 is $500,000.

This project, as of the close of fiscal year 1952, will be 20 percent complete. The amount allocated for 1953 will change the rate an infinitesimal fraction.

In 1952 there was an appropriation of $2,312,000. How does it happen that the tentative allocation for fiscal year 1953 is only about one-fifth of that amount?

How much did you request of the Bureau of the Budget?

General CHORPENING. We asked the Budget for $500,000 within ceiling, and $5,000,000 over ceiling.

Mr. RABAUT. Why did you request only $500,000 within ceiling?

General CHORPENING. The project is for a series of levees on both sides of the Missouri River at various locations between Sioux City and the mouth. When the river is tied down by the stabilization works previously discussed, these levees will then protect the rich agricultural lands and towns and cities which lie in the valley.

This work, as we are setting it up, proceeds concurrently with the stabilization of the river. In other words, you would not build levees unless you were able to keep the river in the channel.

The reason the appropriation last year was $2,312,000 and we only asked for $500,000 within ceiling this year, as you will note, that in 1952 we are completing many units that had previously been started, and that the funds asked for within ceiling this year are essential to complete portions of units that had previously been under way, but not to initiate work on any new units.

Mr. RABAUT. You are referring now to R–616?

General CHORPENING. Starting with fiscal year 1952, I am talking about the 1952 funds, $130,000 was applied to unit L–627–624 to complete it; $90,000 on unit R–580.

Mr. RABAUT. Yes. And on down the line as listed herein.

INCREASE IN COST

Mr. RABAUT. What is the reason for the $8.7 million increase in the estimated cost?

General CHORPENING. The project is only 20 percent completed, with something over $100 million still to come, and probably over a considerable period of time.

In viewing the trend of construction costs and realizing that this may extend over a long period of time, it was considered that we should apply the full increase in the cost index, and we have tried to be conservative in looking toward the future in considering the increase in over-all costs of the project.

Mr. RABAUT. Is this above the normal index increase?

General CHORPENING. Yes, sir; above the normal rate for the entire country, but as I want to submit somewhere in the hearing, the rate

in any one part of the country may be higher than the normal rate throughout the country, depending upon the type of work that may be undertaken.

Mr. RABAUT. What is the rate for the country—5.8?

General CHORPENING. 5.8 is the over-all increase.

Mr. RABAUT. 5.8; this is 8.7.

Mr. CHORPENING. Yes, sir.

Mr. RABAUT. How did you arrive at this 8.7 million increase? Did you take out your crystal ball and look into the date in the far distant future when the project will be complete? Did you take the Engineering Cost Index figures for a particular locality and determine it from that?

General CHORPENING. That is correct. And furthermore, we have had some experience out there recently and know the unit prices that we have received are in accordance with that.

PROTECTION AFFORDED BY THE PROJECT

Mr. RABAUT. How much protection has been afforded by this project, and what do you anticipate will be protected upon its completion?

General CHORPENING. Upon its completion it will provide protection for 1.5 million acres of agricultural lands, and 50 small communities in the Missouri River Valley.

I do not have the figures readily available on the damages that would be prevented by this project, but I believe I can obtain those figures and insert them in the record.

(The information requested follows:)

The average annual flood-control benefits that have been allocated to the Missouri River agricultural project as a result of the reduction in the flood damages to be achieved by the comprehensive water-control plan have been evaluated at $8,467,000 (exclusive of 1951 flood).

OBLIGATONS

Mr. RABAUT. How do you propose to obligate this $3,116,451 unobligated balance between January 1 and June 30 of this year?

(The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings, part 1.)

DEFENSE SIGNIFICANCE OF PROJECT

Mr. RABAUT. What is the defense significance of this project?

General CHORPENING. This is a very fertile part of our country. The Missouri River and the land that will be protected is highly productive agricultural land. The raising of food is highly essential to carrying out the normal functions of our country, to feed the country and the people who may be performing defense functions. There are a good many frozen-food plants in this valley, and of course a great many railroads.

Mr. RABAUT. This is a part of the bread basket of America.

General CHORPENING. That is right.

BENEFIT-TO-COST RATIO

Mr. FORD. General, what was the benefit to cost ratio as of last year?

General CHORPENING. Apparently in the data that we gave to the committee we did not break out the cost to benefit ratio last year. This year we estimate it at 1.36 to 1, but in that we have not included or taken into consideration the damages caused by the flood of this past summer, and any reevaluation of cost-benefit ratio would include that.

INCREASED COST OF PROJECT

Mr. FORD. Last year in the testimony given on page 450, brought out in the colloquy between Mr. Davis and Colonel Potter, that the cost of the project had increased by about $5 million. This year there is an increase of $8,668,000. Can the committee expect we are going to have a $13 million increase occur in the next 2-year period?

General CHORPENING. If construction prices remain stable; no, sir.

Mr. FORD. Was the increase in the over-all cost indicated last year based on the Engineering Cost Index?

General CHORPENING. As of July 1950, presumably. I think the increase this year of $8.5 million—last year about $5 million, that would be $13.5 million over a 2-year period; and we know that the average Engineering Cost Index in that period has been greater than that amount.

Mr. FORD. Percentagewise?

General CHORPENING. Yes, sir.

TOPEKA, KANS.

Mr. RABAUT. The next project, Topeka, Kans., has a total estimated Federal cost of $2,649,000. The allotments to date have been $808,200. The amount of money appropriated for fiscal year 1952 was $70,000, which was for planning. The tentative allocation for 1953 is $500,000.

The project as of the fiscal year 1952 will be 27 percent complete, and the 1953 funds requested will bring the percentage to 49.

General Chorpening, will you please justify this project and give us a brief explanation of the use to which you expect to put the money requested for 1953, and tell us what has been done with the money appropriated for 1952?

General CHORPENING. This is a local protection project for Topeka, Kans., on which a portion, that pertaining to the levee in South Topeka, has been completed in previous years.

The funds requested this year, $500,000, are proposed for application to portions of the North Topeka unit, as indicated in the justification sheets.

MODIFICATION OF PROJECT

I want to advise the committee now that in the review report on the Kansas Basin, which is now before the Congress, the Public Works Committee, we have recommended a modification of the project at Topeka.

Mr. RABAUT. A modification?

General CHORPENING. Yes, and that the amount shown in the justification sheets of $262,000 for Soldier Creek cut-off is in the modification that we are proposing and was not part of the originally authorized project. However, there are sufficient portions of the presently authorized project that will be common to both the presently authorized project and the project recommended, wherein we can utilize the funds being requested for this fiscal year on those common features in the event the revised project is not authorized this session.

Mr. RABAUT. Is the proposed modification going to show any saving in cost?

General CHORPENING. No, sir. I may say this, that the estimate that we show of $2,649,000 is the estimate based on the modified plan now before the Congress rather than the presently authorized plan.

Mr. RABAUT. When was this project authorized?

General CHORPENING. In 1936. And may I add this, that immediately after the major flood of last summer, General Pick directed a very thorough study to be made of the flood, where the water fell, how much of it fell, and that any modifications found to be desirable in the over-all plan be proposed. These studies are under way. In view of the terrific damages and losses from the flood that occurred, possibly at some future time a very considerable modification of this project may be recommended to the Congress at a considerably increased cost as a result of those studies.

I am giving that information to the committee as background because I believe you should have it in connection with this estimate. However, we can proceed with the amount we are requesting here on portions that are common to the project as it is now proposed; which will be common to any project eventually found desirable in even an expanded project.

AUTHORIZED IN 1936

Mr. RABAUT. You say the project was authorized back in 1936?

General CHORPENING. Yes, sir.

Mr. RABAUT. Is the project as originally authorized sufficient to control the flood in this area?

General CHORPENING. No, sir.

Mr. RABAUT. And that is the reason for the change?

General CHORPENING. Yes, sir.

Mr. RABAUT. Are the plans contained in the review report sufficient to provide local protection needed for North Topeka?

General CHORPENING. I do not think so. I think that in view of the flood experience of last year there will be a further extension or modification recommended.

SOLDIER CREEK

Mr. RABAUT. I understand that Soldier Creek is one of the chief troublemakers on this project. Are you planning for the control of this stream based on what the local interests desire, or is it based on what the Kansas City district recommended as engineeringly sound?

General CHORPENING. I believe, speaking now of the project presently being recommended to the Congress, that it was at that time considered to be engineeringly sound by our district. However, the

evidence of last summer considerably changed things, and that may not be true at this time.

Mr. RABAUT. You are addressing your answer to the Soldier Creek?

General CHORPENING. Yes, sir.

Mr. RABAUT. When are you going to decide what should be done; is that to be the result of studies now being made?

General CHORPENING. Yes; and further, it is expected there will probably be an authorization bill this year, and when that is concluded, we would decide how to proceed.

Mr. RABAUT. That will not only cover the Soldiers Creek area, but will include the whole matter?

General CHORPENING. Yes, sir.

Mr. RABAUT. As a part of the general study.

General CHORPENING. Yes, sir.

EXPENDITURE OF FUNDS

Mr. RABAUT. Last year funds for planning were appropriated before the House was aware of lack of authorization for this project, since all of the hearings were held in the Senate. On what particular works have funds requested been expended, or on what will they be expended?

General CHORPENING. Essentially they will be expended in connection with levees and floodwalls and bank protection in the North Topeka units, and on the pumping plant for the North Topeka unit. Those funds have only recently been allocated for this project.

LOCAL CONTRIBUTIONS

Mr. RABAUT. What work have the local interests done on this stream that would reflect in any way on your contemplated program?

General CHORPENING. The local interests have made a cutoff on Soldiers Creek, which of course will be taken into consideration in our plans for the project.

Mr. RABAUT. Have they constructed levee works?

General CHORPENING. They have constructed some levees also small portions of the project that——

Mr. RABAUT. Do the engineers feel that the work they have already done will dovetail or fit into the contemplated plans?

General CHORPENING. Whenever possible, we certainly will fit in works that have been done by local interests. However, here, in view of the fact that those levees or cutoffs were made prior to the severe experience of last year, whether or not they would fit into the plans we would consider adequate, I am unable to say at this time.

Mr. RABAUT. That would be determined upon further study?

General CHORPENING. Yes, sir.

Mr. RABAUT. What contributions will they make toward the project?

General CHORPENING. They will make the usual contributions of providing rights-of-way and of saving the Government harmless and of maintaining the project after completion.

Mr. RABAUT. What about highways or private bridges?

General CHORPENING. As is customary in other projects, the local interests defray the cost of highway relocations.

Mr. RABAUT. To what extent will they cooperate moneywise?

General CHORPENING. In the recommended plan, the city would have to put up an estimated amount of approximately $560,000.

Mr. RABAUT. What assurance do you have that they will fulfill their part of the bargain?

General CHORPENING. The requirement of local cooperation in the presently authorized plan will be in the plan now being recommended, and must be fully complied with.

Mr. RABAUT. Have the engineers ever run into a situation or had an experience where local interests have failed to meet their obligation?

General CHORPENING. Yes; we have.

Mr. RABAUT. In small or large amounts?

General CHORPENING. There have been some projects where appropriations have been made by the Federal Government after which the local interests have failed to come through on what they were required to do, and those projects have been held up, stopped or suspended over a period of years, because obviously we cannot proceed, nor should we proceed unless the local interests live up to their bargain. We have instances where the amounts are large and also where they are small.

(Off-record discussion.)

Mr. RABAUT. Have the local interests always been anxious to cooperate with the Corps of Engineers for the construction of this project?

General CHORPENING. At Topeka—no, I do not think so. I believe there has been some difficulty in the past with them. Back in January or February of 1940 litigation was brought against the city of Topeka to enjoin the construction of the North Topeka unit under the authorized plan. The city of Topeka has furnished a certified copy of the court order dismissing that action. Litigation was dropped, when local interests were informed of the plan that is now contained in House Document 643, which is now before the Congress.

Mr. RABAUT. Even in view of your last answer, why has not this project been constructed earlier, if it is so vital?

General CHORPENING. I think the North Topeka portion was held up by this difficulty with the local interests, because they could not get together, and that held up any further action on our part. As has been stated, the local interests there are satisfied with the project as has now been proposed, and have withdrawn any objections, and the suits have been dismissed.

LAST YEAR'S FUNDS USED

Mr. KERR. How much of the $808,200 has already been used?

General CHORPENING. $738,200, up to the end of 1951, Judge Kerr; that is entirely on South Topeka.

Mr. KERR. You are asking now for $500,000?

General CHORPENING. Yes, sir.

MODIFICATION OF PLANS

Mr. DAVIS. General, I was not quite clear concerning the modification of plans that have taken place. Where on the map before you is the modification shown?

General CHORPENING. This map that I have in front of me shows the plan as now included in House Document 642, which is before the Congress for authorization and is a modification from the one that was authorized in 1936.

Mr. DAVIS. As of this moment, then, there is not an authorized project, particularly for the portion for which funds are requested?

General CHORPENING. There is an authorization for the portion shown as the levee, floodwall, and bank protection, and the pumping plant.

There is no authorization for the Soldier Creek cut-off railroad bridge, and as I stated earlier, until such time as we know what the action of Congress is going to be, we would not propose and do not propose to utilize any of the funds shown therein on a portion that is not now authorized by the Congress.

This is a rather complicated situation here where we have an authorized project, a recommended modification of that project, and there is probability of some further modification that might be recommended. That would be determined after the revised report was made as a result of the recent floods.

Mr. DAVIS. The modified plan for which authorization is now being sought is not the result of the experience with last year's flood?

General CHORPENING. No; it was made before that time.

Mr. DAVIS. Do you contemplate seeking further modification before the Public Works Committee of the House, before that committee takes action on the request pending before it now?

General CHORPENING. Let me say it this way, Mr. Davis: When hearings are held this year, and that is a definite possibility, it is probable that the Corps of Engineers will be asked for and will present what we have discovered up to this time and what we believe to be essential in the way of modification on the recommendations made prior to the flood.

Mr. DAVIS. You would expect to have ready for that committee additional information based upon your flood experience?

General CHORPENING. We probably will have. Those studies have been pushed at a very rapid rate and reports are even now, at this moment, coming into my office. It will depend on what the field has recommended and on what the Chief of Engineers feels that he could properly recommend at that time if requested by the Public Works Committee.

Mr. DAVIS. From what you have received so far, are the indications that it is going to be a more costly project as against what you have submitted in the justification before this committee?

General CHORPENING. Yes, on account of the very extensive destruction and damages caused by the late flood in Topeka.

The damage to North Topeka from the flood is estimated at approximately $34 million. The flood that they had last year was a record flood far transcending any that had previously been experienced, and transcended what we had expected could happen there.

Mr. DAVIS. I gather from that statement, General, that in your opinion, the plan for this project, at least as they existed last year and now, would not have provided complete protection against these increased floods?

General CHORPENING. No. Further, I should like to make this clear, that all of these local flood protection projects in the Kansas River basin are clearly established on the basis of the construction of reservoirs upstream to take a portion of the floodwaters.

I explained that in connection with the Kansas City's project a short time ago.

Mr. DAVIS. That is also true of your modification plans as they now exist, and undoubtedly will be true of the modified plan as eventually submitted to the Public Works Committee?

General CHORPENING. Yes, sir.

BENEFIT-TO-COST RATIO

Mr. DAVIS. This 1.16 to 1, given as the benefit-to-cost ratio, represents the ratio for the whole project?

General CHORPENING. That is correct; without taking into account the experience and damages of last summer.

Mr. DAVIS. What is the benefit-to-cost ratio as now pending before the Public Works Committee?

General CHORPENING. That is it.

PROTECTION MEASURES

Mr. DAVIS. General, how does this particular project differ from other protection projects being requested throughout the country, so that this one has been picked out for construction over the others?

General CHORPENING. This one will protect an area which has just suffered an extremely crippling flood. With that evidence directly in front of us, it was considered that it should be given priority at this time for construction. Of course there has been some work done on the project previously, on the South Topeka side.

Mr. DAVIS. Certainly there are other places where there has been some work completed, and where they have had disastrous floods in the past that are not in this budget, are there not?

General CHORPENING. That is correct, some time in the past. However, here is one that 6 months ago did have an extremely severe ordeal.

Mr. DAVIS. Is there any other place in the country where a similar condition exists, or is this just to satisfy the people who have had this recent terrifying experience?

General CHORPENING. There are other places where there are authorized projects that could suffer very heavy damage proportionately, depending upon the size of the place. This one, however, had it happen very recently. It is the capital city of Kansas, and practically the greater portion of the town was under water.

RISK OF RECURRENCE

Mr. DAVIS. Do you feel there is great risk of recurrence at Topeka, a greater risk than would be true of other projects throughout the country?

General CHORPENING. Those risks differ in different places, depending upon what their experience has been with floods in the past. The chances of a flood equal to that of last year occurring again at Topeka are just as great this year as they were last year.

Mr. DAVIS. Even though last year was the most unusual flood any time in a period of 90 years?

General CHORPENING. Yes, sir.

(Off-record discussion.)

Mr. DAVIS. Based on your experience in the Corps of Engineers, General, do you recall two unusually high floods in successive years?

General CHORPENING. Outside the instance of last year on the Neosho River in the southeastern section of Kansas, where within a period of several weeks two floods occurred, both greater than the previous flood of record on that stream, not offhand.

Mr. DAVIS. That could almost be considered a part of the same storm in that case, could it not?

General CHORPENING. No; they were individual storms.

Mr. DAVIS. That still leaves the question unanswered with respect to successive years.

General CHORPENING. There have been, I know, instances in various parts of the country where a heavier flood has occurred in the succeeding year, not necessarily the flood of record in the successive year, but still a very heavy flood. Both 1936 and 1937 were very heavy flood years on the Ohio River, 1937 being the flood of record.

NEW PROJECTS

Mr. DAVIS. Does the fact that Cape Girardeau and Topeka are the only new local protection projects in this budget represent the studied opinion of the Corps of Engineers that they are the two most urgent projects of this kind in the United States?

General CHORPENING. Since these funds were requested by the Corps of Engineers and the request was included by the Bureau of the Budget, and are the only new local protection starts for this year, it would seem that these two local protective projects would, in view of the very decided and demonstrated dangers that have occurred—it would seem that they should receive at this time an appropriation, even in view of the criteria of the emergency situation.

Mr. DAVIS. The answer seems to come very much short of answering the question.

General CHORPENING. In these instances we have had directly in front of us during the last year very extensive flood damages.

Mr. DAVIS. It appears it will be needless for me to pursue that further, Mr. Chairman.

Mr. FORD. General, last year when the corps submitted its budget to the Bureau of the Budget, was the Topeka project included?

General CHORPENING. No, sir.

Mr. FORD. Either in the ceiling or overceiling?

General CHORPENING. No, sir.

Mr. FORD. And the President's budget last year did not include the Topeka project?

General CHORPENING. No, sir.

Mr. FORD. And the time it was submitted was subsequent to the flood of 1951?

General CHORPENING. That is correct.

Mr. FORD. Would the presently authorized project have benefited the people in Topeka during the flood of 1951 if it had been constructed?

General CHORPENING. It would have benefited them, but in view of the fact that the flood that occurred last summer was far greater than any previous flood, it is extremely doubtful if the work, as already authorized, would have alleviated the situation to any considerable extent.

Furthermore, the reservoirs above that are now authorized and to which the grades are tied, have not been built.

TUTTLE CREEK RESERVOIR, KANS.

Mr. RABAUT. We come now to the next project which is the Tuttle Creek Reservoir in Kansas.

The total estimated Federal cost of this project is $79,132,000, the allotments to date amount to $713,100, the amount appropriated in the 1952 fiscal year was $500,000 for planning and the tentative allocation for the fiscal year 1953 is $15,500,000.

The funds allotted so far show that the project will be 0.9 percent completed in 1952 and the rate will advance to 20 percent for 1953.

General Chorpening, we would like to have a general statement on this Tuttle Creek Reservoir. Tell us what you did with the money for 1952, in the amount of $500,000, and what you intend to do with this request for $15,500,000.

Was $15,500,000 the amount asked of the Bureau of the Budget, or was that only that which was below the ceiling?

General CHORPENING. In answer to the last part of your question, sir, we asked the budget for $10,500,000 within ceiling, and $5 million over ceiling, a total of $15,500,000.

This project is a flood-control project on the Big Blue River, which is a tributary of the Kansas River. The location of the dam is a short distance above the mouth of the river, where it empties into the Kansas River and just above the city of Manhattan, Kans.

This project has been authorized since 1938 and is the largest proposed project for storing of floodwaters in the Kansas River Basin. It would contribute more toward the alleviation of flood damages on the Kansas River below that point than any of the other reservoirs authorized or recommended.

For many years the Corps of Engineers has tried to get local interests to agree to go along with the prosecution of this project, and it was only the terrific flood that occurred last year that convinced many people of the complete necessity of going ahead with this project.

It will impound 2,280,000 acre-feet of floodwaters, which will later go down the river after the flood has passed, under controlled discharges.

Five hundred thousand dollars of the funds for 1952 will be utilized entirely on the planning of the project. Those were received only a couple of months ago, and in that period of time we have proceeded with all possible speed on finalizing the planning in connection with the project.

Mr. RABAUT. We have asked for a general report of the expenditure of the moneys in that area.

General CHORPENING. Of the funds asked for in fiscal 1953, we propose to expend them as indicated in the justification sheets. There will be $4,022,000 for embankment; outlet works will be $3,900,000; spillway will be $2 million; a small amount on administration and

housing facilities; $1 million for land acquisition; relocation of railroads, roads, cemeteries, utilities, et cetera, $3,425,000, and engineering and design $600,000.

Mr. RABAUT. I might point out that what you call a small amount for housing is just a half million dollars.

General CHORPENING. I meant that it is small in comparison to the other amounts.

STATUS OF PROGRESS REPORT

Mr. RABAUT. Can you tell us the status of the definite project report on this project?

General CHORPENING. The definite project studies are at present under way in the field. They are well along. We expect that they will be available to us for review within the next month.

Mr. RABAUT. When do you expect it to be completed?

General CHORPENING. We expect it to be completed next month in the field and sent to our office. After it gets into our office here, of course, we will review it very thoroughly.

Mr. RABAUT. What date do you feel it might be completed?

General CHORPENING. I would say within the next couple of months, sir. We are going to move as rapidly as we can, because approval of the studies is essential to going ahead with the finalization of these items.

BENEFIT-TO-COST RATIO

Mr. RABAUT. What is the benefit to cost ratio?

General CHORPENING. 1.53 to 1; without, however, having taken into account fully the damages that occurred in last year's flood.

Mr. RABAUT. Will you qualify that statement? Do you mean it is going to change the ratio?

General CHORPENING. Yes, sir. It should make it higher.

Mr. RABAUT. What do you anticipate it will be finally?

General CHORPENING. When we completely analyze the damages caused by the last flood, and relate them back to this project, I would anticipate it would be higher.

Mr. RABAUT. Would it advance a whole point?

General CHORPENING. I do not think it would be that.

Mr. RABAUT. Has there been a change in the benefit to cost ratio as compared to last year's report, which was 1.3?

General CHORPENING. That was 1.34. What I am indicating is that I think we have made a partial allocation of greater benefits, but we have not yet completed studies of the damages that occurred last year and what the allocation would be of those damages. So this is rather an interim figure.

Mr. RABAUT. Then you are starting to climb the ladder. You have taken a littele bit, and you feel you may take some more to your benefit.

General CHORPENING. Yes, sir.

Mr. RABAUT. What are these specific benefits?

General CHORPENING. This is basically a flood-control dam. The total flood-control benefits that we now estimate will be $4,668,000.

Mr. RABAUT. That takes care of the over-all benefits?

General CHORPENING. We just today got the breakdown from the field on this by telephone, Mr. Rabaut. I would rather put this in the record because I want to check it.

Mr. RABAUT. Without objection, you may put it in the record, and allow more time for your study.

(The material referred to is as follows:)

A breakdown of the average annual benefits for Tuttle Creek Resevoir based on the plan for the existing authorized and recommended reservoirs for the Kansas River Basin as set forth in House Document 642, Eighty-first Congress, Second Session, now before Congress, is shown below. These benefits are estimated on the basis of the history of flooding prior to the 1951 flood.

Flood control:	*Amount*
Kansas River:	
Urban	$1,907,000
Rural	740,000
Subtotal	2,647,000
Missouri River: Rural	1,450,000
Mississippi River: Rural	182,000
Water conservation	389,000
Total	4,668,000

Mr. RABAUT. Specifically, where will the flood-control benefits occur, and what is the basis for the value you place on that?

General CHORPENING. Again, I do not have the complete detailed breakdown for the locations and portions of the river.

I would like to submit that for the record also, Mr. Chairman.

Mr. RABAUT. You can supply that for the record, including what percentage occurs in Kansas City.

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

A breakdown of the estimated average annual benefits to be realized from construction of the Tuttle Creek Reservoir for the urban areas along the Kansas River is as follows:

Manhattan	$82,400
Topeka	306,800
Lawrence	42,500
Kansas Citys	1,408,000
Others	67,300
Total	1,907,000

The estimated benefits shown above in the amount of $1,408,000 for the Kansas Citys represent 74 percent of the total urban benefits to be realized within the Kansas River Basin and represent 30 percent of the total benefits to be realized from the Tuttle Creek Reservoir.

ANNUAL CHARGES

Mr. RABAUT. What cost have you computed in completing that side of the ratio?

General CHORPENING. $3,307,000 on the cost side of the ratio.

Mr. RABAUT. Including what?

General CHORPENING. Including interest on the money, amortization, and annual costs of maintenance and operation. We can break it down for the record.

Mr. RABAUT. Yes.

(The material referred to is as follows:)

A break-down of the estimated average annual charges for Tuttle Creek Reservoir is as follows:

Total estimated cost	$79,132,000
Interest during construction	3,550,900
Total net Federal investment	82,682,900
Interest and amortization	3,167,230
Maintenance and operation	140,000
Total	3,307,230
Credit in rentals	−242,000
Total average annual charges	3,065,230

ESTIMATED COSTS

General CHORPENING. I would like to say that we will take some credit for rentals of the land in the reservoir as well.

Mr. RABAUT. Do such costs reflect the loss of income from lands that will be flooded by the reservoir?

General CHORPENING. I take it into account this way, Mr. Rabaut: That the cost of the lands for which we pay will be taken into account in the amortization and interest charges that we put back as a charge in this project.

Mr. RABAUT. What is the basis for the present estimated cost?

General CHORPENING. The basis for the present estimated costs are the estimates that we have made at the time we sent our budget over for presentation to the Bureau of the Budget.

Mr. RABAUT. How much of the estimate is based on survey data?

General CHORPENING. A considerable portion of it.

Mr. RABAUT. What is it percentagewise?

General CHORPENING. I would have to supply it.

Mr. RABAUT. Will you supply that for the record, and the particular items?

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

The present estimated cost for Tuttle Creek Reservoir is based on the original studies made and those made in connection with the preparation of the Kansas River Report, House Document 642, Eighty-first Congress, second session, now before Congress. Accordingly, the present estimate is based on the preliminary surveys and design studies of the scope normally inherent in our survey reports as revised from time to time to reflect current price levels. This estimate will be reviewed in connection with the definite project studies now under way. It is considered that the present estimate is based on 80 percent of all the surveys which will be required for the construction of the dam. It is to be noted that the surveys for dam construction would not include those surveys required for relocation work.

LOCAL CONTRIBUTION

Mr. RABAUT. Are the local interests united in their desire to have the project constructed?

General CHORPENING. No, sir; they are not. I would like to elaborate on that.

Mr. RABAUT. All right.

General CHORPENING. Generally, as happens on so many of our flood-control projects, the people whose lands are going to be taken,

or whose small towns may have to be partially inundated, object. They have objected through the years, and I understand they still object.

I could name you many instances throughout the country where the same thing has happened. I would specifically mention Denison Dam, Tex. and Okla., where many of those residing in the vicinity were adamant that that reservoir should not be built.

Now that it has been built, those same people would fight a hundred times harder if we tried to empty the reservoir and go back to where we were in the first place.

We encounter that opposition to a greater or lesser extent in nearly every flood-control reservoir that we build. It has happened to quite a great extent here.

Mr. RABAUT. Are the local interests, who the corps claims will be benefited by the dams, especially in Manhattan, united in their desire to have the dam constructed?

General CHORPENING. I believe that the local interests there, the mayor and the people in present control of the administration, are in favor of it. I am certain that there probably are some people in Manhattan that would not be 100 percent in favor of it.

That is too much to expect; that they all be in favor of it.

Mr. RABAUT. Do you think the officials are favorable to it?

General CHORPENING. Yes, sir.

Mr. RABAUT. I mean the duly elected representatives of the town?

General CHORPENING. Yes, sir.

Mr. RABAUT. Have the city commissioners passed any resolution on it?

General CHORPENING. I believe that they have. I would like to check that and furnish an answer to that.

Mr. RABAUT. How about the same question on Kansas City?

General CHORPENING. They are wholeheartedly in favor of this project. They know that without this project their local flood-control project will not control great floods.

Mr. RABAUT. In requesting construction of the dam, did you take into consideration the fact that the Kansas Legislature has twice passed resolutions asking that the dam be deleted from the so-called Pick-Sloan plan?

General CHORPENING. Of course, we knew that had happened in the past. But they have not passed any such resolutions recently.

Mr. RABAUT. At what date were those resolutions passed?

General CHORPENING. I do not know the dates that they were passed, sir. I can supply that.

Mr. RABAUT. Will you supply that for the record?

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

A check with the mayor of Manhattan, Kans., reveals that there was never a resolution passed by the city of Manhattan referring to Tuttle Creek by name. However, on July 28, 1951, the city passed a resolution endorsing the Pick-Sloan plan in full, and on January 22, 1952, the city commission passed a resolution stating that they agreed in principle with the Corps of Engineers' plans for a levee around the town and for more adequate upstream protection.

The House of Representatives for the State of Kansas in the session of 1949 by House Resolution 35, dated March 4, 1949, passed a resolution calling for the deletion of the Tuttle Creek Reservoir from the program. This resolution was discussed by the Kansas State Senate but was not passed by that body.

On March 21, 1951, the Kansas State House of Representatives passed House Resolution 26, requesting the Congress of the United States to direct a review of all projects which had been authorized for five years on which work had not been started.

SOIL-CONSERVATION

Mr. RABAUT. As an engineer, what faith do you have, or what credence do you have and place, in the claim of the soil-conservation people that 62 percent of the recent flood damage in Kansas could have been alleviated if proper methods of conservation had been followed?

General CHORPENING. There are two kinds of damages generally that are discussed in connection with a flood. One kind are the damages we talk about, which are destructive to land, to people, to improvements, and the other is the damage that occurs that is more discussed by agricultural people, as to the effect on the land itself, up in the upper regions.

As to the damages that we talk about, the actual flood damages, as an engineer, I will say that they cannot handle over 5 to 10 percent, let alone 62 percent of those damages. It cannot be done on a feasible, economical basis.

The proposal would be that a great number of small reservoirs would be built in the headwaters.

Mr. RABAUT. Are those dry reservoirs?

General CHORPENING. They would have to be plenty wet in time of heavy rain.

Mr. RABAUT. Otherwise, they are dry and the land is in use; is that right?

General CHORPENING. That is right. We contemplate that the Tuttle Creek Reservoir would be dry most of the time and the land in use also.

And in those small reservoirs it is obvious, if they are only 3, 4, 5, or 6 feet deep, that the total amount of land that is going to be flooded is going to be tremendously greater than the amount of land if you build a large reservoir, where the water will be a maximum of 120 feet deep.

Mr. RABAUT. As to these small reservoirs, if the plan is invoked, would it be the thought of the engineers that no buildings should be erected within the reservoir area?

General CHORPENING. Generally, those small reservoirs would be so located and of such a small area that they would not be where improvements are actually located.

There is another feaure I would like to mention there, Mr. Rabaut. The small reservoirs would have no manual control over the discharge of water from them. Those reservoirs would be built with grass spillways, with no manual controls.

Mr. RABAUT. I thought they would have at least some sort of control at the spillway.

General CHORPENING. They do not plan that in their thinking.

Mr. RABAUT. Why not?

General CHORPENING. It would run the cost up tremendously and it would not be economically justified with a small structure such as would be contemplated.

And what you could have with uncontrolled small reservoirs is not only a flood but an aggravated flood over what you otherwise might have. What I am trying to point out is that, without control on these reservoirs, you could potentially have a situation where, with all the water stored in this great series of small reservoirs, with a possible failure without control, if they should start to flow, you would have an augmented flood beyond what you would have in nature.

LAND ACQUISITIONS

Mr. RABAUT. What are your contemplated land acquisitions here, as to type and cost?

General CHORPENING. There are a number of communities, about 10 of them, where we will have to take some land and improvements. I do not have that broken out in acreage. It is quite small in sum. The improvements are the major cost.

I can give that for the record.

Mr. RABAUT. Suppose you supply that for the record.

General CHORPENING. Yes.

(The material referred to is on p. 375.)

LANDS AND IMPROVEMENTS

General CHORPENING. The rural lands and improvements run to 72,600 acres.

Mr. RABAUT. How many sections of that land is that?

General CHORPENING. It would be a little over a hundred sections of land.

Mr. RABAUT. What is the basis for this estimate?

General CHORPENING. The basis for that estimate is the estimate that we made last summer at such time as we prepared the estimates that we have turned in to the budget.

Mr. RABAUT. Is that a revision of any previously made estimates?

General CHORPENING. I think there was some revision over the previously made estimates at that time; yes, sir.

Mr. RABAUT. To what extent has the land been appraised by those familiar with the area, and to what extent has the corps talked to the landowners?

General CHORPENING. Of course, we received the half million dollars of planning money in last November. We have gone ahead intensively since then in the field with our own real estate appraisers and talked to the local people, and we are now securing a much better figure in connection with the land than the estimates we now have.

Mr. RABAUT. What has been your experience as a basis for your making the statement here as to total cost for land acquisition in the amount of $11,375,000?

Did you have a different figure earlier?

General CHORPENING. We can check what figures we had prior to that, prior to the time this estimate was made up.

Mr. RABAUT. What does that figure run an acre for land?

General CHORPENING. About $86 an acre on rural land.

Mr. RABAUT. Is that including the buildings on the rural land?

General CHORPENING. No, that does not include the improvements. To include the improvements it would be something like $115.

I can give the exact figure in the record.

Mr. RABAUT. You can furnish it for the rural land and rural land improved as to buildings and fences, and so on. Give us the two figures.

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

Land acquisition program—Tuttle Creek Reservoir

Type of land	Cost per acre	Acreage	Land	Improvements	Total
Rural:					
Cultivated	$110	38,000	$4,190,000		$4,190,000
Do	85	11,000	935,000		935,000
Do	60	5,500	330,000		330,000
Pasture and meadow	45	16,000	720,000		720,000
Timber and idle land	20	2,100	42,000		42,000
Farm improvements				$2,112,000	2,112,000
Schools and church property			6,000	124,000	130,000
Subtotal, rural		72,600	6,223,000	2,236,000	8,459,000
Urban:					
Randolph, Kans			42,000	1,007,000	1,049,000
Bigelow, Kans			5,000	110,000	115,000
Irving, Kans			20,000	526,000	546,000
Cleburne, Kans			8,000	189,000	197,000
Garrison, Kans			6,000	154,000	160,000
Stockdale, Kans			2,000	47,000	49,000
Blue Rapids, Kans			43,000	1,038,000	1,081,000
Sand, gravel, and gypsum plants			25,000	609,000	634,000
Barrett, Kans			1,000	21,000	22,000
Winkler, Kans			2,000	39,000	41,000
Schroyer, Kans			1,000	21,000	22,000
Subtotal, urban			155,000	3,761,000	3,916,000
Grand total			6,378,000	5,997,000	12,375,000

RELOCATION COSTS

Mr. RABAUT. What is the basis for your relocation cost of $16,456,000?

General CHORPENING. We have two railroads to be relocated here, and those are the Union Pacific Railroad and the Missouri Pacific Railroad.

The total estimated relocation cost is $9,705,000.

As to the highways, there are a number of them. I can supply for the record the exact ones with the estimated amounts. But the total highway relocation is estimated to cost $3,895,000.

Mr. RABAUT. Is the relocation of cemeteries included in that? Or is it separate?

General CHORPENING. It is separate.

Mr. RABAUT. How does that run?

General CHORPENING. $206,000 for cemeteries.

Mr. RABAUT. How much of the relocation costs are based on survey document data?

General CHORPENING. On survey document data, a great amount of it at this time.

Mr. RABAUT. Have you taken into consideration changes in these roads and railroads since the survey document?

General CHORPENING. To an exploratory extent only. It goes back, again, that we did not get our planning funds until a few months ago. Normally, we would not have gotten into that too much at this time.

Mr. RABAUT. Had you received your planning funds earlier this year, you would have been further along with the program; is that what you mean?

General CHORPENING. Yes, sir.

Mr. RABAUT. What is the status of the negotiations on these relocations?

General CHORPENING. We have made no actual negotiations at this time on it. After all, up till now, there have been no construction funds appropriated.

Mr. RABAUT. Can you list for the record, each relocation, its cost at the time of the authorizing legislation; its present cost, the reason for the change, the status of negotiations, and the total work anticipated?

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

Proposed relocations for Tuttle Creek Reservoir

Item	Estimated cost at time of authorization	Present estimated cost	Work anticipated	
			Present mileage	Relocated mileage
Railroads:				
Union Pacific R.R., Manhattan to Marysville branch	$4,400,000	[1] $5,233,000	43	61
Missouri Pacific R.R., Atchison to Stockton branch	1,304,000	4,472,000	16	16
Total railroads	5,704,000	9,705,000		
Highways: United States Highway No. 77		657,000	18.5	14.8
State:				
Highway No. 13		868,000	47.4	14.3
Highway No. 113			3.1	
Highway No. 9		883,000	4.5	4.0
Subtotal		1,751,000		
County roads:				
Federal aid secondary		800,000	[2] 44	44
County and township		687,000	[2] 39	39
Subtotal (State highways)		1,487,000		
Total highways	2,921,000	3,895,000		

[1] Relocation work on the Union Pacific R.R. is also required in connection with the construction of the proposed Milford Dam project as recommended to Congress in the Kansas River Report, House Document 642, 81st Cong., 2d sess. The estimated cost of all the relocation work involved has been divided equally between the Tuttle Creek and Milford projects. Accordingly, the estimate $5,233,000 furnished in the table above represents one-half of the total estimated relocation cost as proposed for the Union Pacific R.R.

[2] Miles of road inundated.

MAJOR BRIDGE REPLACEMENTS

Eighteen major bridges will be abandoned in the reservoir area, and the cost of construction of nine new bridges as replacements on the new alinement is included in the estimate for road relocations shown above.

MANUFACTURING PLANT RELOCATIONS

Construction and building material plants, $706,000.

Item	Estimated cost at time of authorization	Present estimated cost	Work anticipated	
			Present mileage	Relocated mileage
Utilities:				
Power line: Kansas Power & Light Co		$441,000		109
Gas line: Kansas Power & Light Co		211,000		13
Oil lines:				
NCRA Oil Products Co		365,000	1.0	10.0
Service Pipe Line Co		233,000	2.4	6.4
Telephone lines		275,000		120
Subtotal	$105,200	1,525,000		
Cemeteries [1]	242,500	206,000		
Towns: Modification of municipal improvements		419,000		
Grand total relocations	8,972,700	16,456,000		

[1] 1,925 graves to be relocated.

REASONS FOR CHANGES IN COST

The differences between the cost of the relocation features under the original plan and that presently proposed are due to additions to and improvements of these facilities within the reservoir area and to price-level increases since the time of preparation of the original estimate. The project was authorized by the 1938 Flood Control Act and price levels of today are considerably higher than those used in preparation of the original estimates. A number of additions and improvements have also been made in the relocation features since preparation of the original plan which have increased the relocation costs. For example, many Kansas State highways or sections thereof, have been constructed to a higher standard and much new surfacing has been accomplished with emphasis on the application of gravel or crushed stone to county and township roads. Increases have also been made in the power and oil products lines passing through the reservoir area.

STATUS OF NEGOTIATIONS

No actual negotiations are under way for the above listed relocations. However, relocations have been discussed with the various interests involved. These discussions were of an exploratory nature and are being made current in connection with the studies now under way in preparation of the definite project studies. The relocation work will involve replacements in kind and the estimates presented above are based on the experience gained in connection with the relocation work at other reservoirs in the Missouri Basin.

Mr. RABAUT. To what extent is the Union Pacific relocation to be charged to Milford?

General CHORPENING. Approximately 50 percent of the relocation on the Union Pacific will be charged to the Milford project.

The Milford project is not presently authorized, but it is recommended in the document that is now before the Congress and it would be most uneconomical to make a relocation only for Tuttle Creek and not make it for the Milford project. Long before we get into the construction on the relocation of the Union Pacific, we are hopeful that the authorization for Milford will have passed.

Mr. RABAUT. What would be the effect of the charging of it to Tuttle Creek on the benefit to cost ratio?

General CHORPENING. It would make it lower.

Mr. RABAUT. Can you supply this for the record?

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

By including the total cost for the Union Pacific Railroad relocation in the cost for Tuttle Creek Reservoir, the present estimate of $79,132,000 would be increased by $5,233,000. The increase in average annual charges occasioned thereby would change the benefit cost ratio from 1.53 to 1.44 to 1.

Mr. RABAUT. What provisions have you made for the relocation of the towns and people in the reservoir area? That is an important question affecting the home lives of the people.

General CHORPENING. We will have to take some portions of quite a few small towns in the reservoir area. Some of the towns, it would appear, will prefer relocation to complete abandonment of the towns. Those are questions that will not be finally resolved until we get into the business of negotiations with each individual town.

Mr. RABAUT. How would the bonded indebtedness of towns, like Randolph, be handled?

Is there any cost reflected in the estimate to take care of a situation such as this?

General CHORPENING. No, sir. After all, we required to pay the towns for that portion of the town that we take over in the project. Each instance of that kind is an individual problem in itself.

The fact that a city may have a considerable amount of bonded indebtedness is not necessarily a factor in increasing the costs of relocation.

Mr. RABAUT. Those are just individual incidents to the individual towns, but it becomes an aggregate and costly problem to the Government when they are grouped together.

The point is that you are going to walk into an expense and you say the engineers do not figure it in the estimated cost at all. They are just going to pass it until they come to the bridge, but Uncle Sam is going to get the bill.

General CHORPENING. Our information at present is that some towns, or these small towns, may prefer relocation to complete abandonment, and that is particularly true of Randolph. We have done that in many instances in other reservoirs.

Mr. RABAUT. How can you get them out of the old location without paying the bonded indebtedness incurred by the town in that place?

General CHORPENING. If we relocated the town, we must, in a new location, give them facilities at least as good as what they had. Then the town is in the same position as it was in the present location.

Mr. RABAUT. Let us take a hypothetical question. The town has a bonded indebtedness on the sewerage system and it will no longer be worth anything once abandoned. You put the sewerage in the new town and then you permit the people that have the debt on this sewerage, if they will agree to it, to hold their indebtedness over the new sewerage, is that it?

General CHORPENING. That is correct.

EFFECT OF BLUE RIVER ON RECENT FLOODS

Mr. RABAUT. Can you explain to the committee the effect the discharge from the Blue River had on the recent flood?

General CHORPENING. I do not have readily available an exact answer to that question, Mr. Rabaut.

Mr. RABAUT. Can you supply it for the record?

General CHORPENING. Yes, sir.
Mr. RABAUT. That will be satisfactory.
(The material referred to is as follows:)

Effect that discharges from Big Blue River had on flood of July 13, 1951

Location	Actual discharge	Discharge contributed by Big Blue River	Percentage contribution by Big Blue River
Manhattan	437,000	102,000	23
Topeka	478,000	88,000	18
Bonner Springs [1]	510,000	73,900	14

[1] The gage at Bonner Springs is just upstream from the Kansas Citys and indicates for practical purposes the discharge of the Kansas River at Kansas City. The gage is located slightly upstream in order to be clear of backwater effects from the Missouri River.

Mr. RABAUT. I wish you would explain for the committee the statement from the United States Geological Survey, Water Resources Division, in a letter from N. A. Benson, hydraulic engineer. It is a memorandum relating to the effects of the floodwaters of the Blue River on the severity of the Kansas River flood of July 1951. This is the statement in one of the paragraphs in the letter:

The effect of the large discharge of 100,000 cubic feet per second from the Big Blue, on the stage in the Kansas River appears small, but is due to the fact that at a high stage of the river a small change in the river level can accommodate a large chain in discharge. Had the stage in the Kansas River at the mouth of the Big Blue been 27 feet instead of 33 feet—33.5 feet, then the 100,000 cubic feet per second inflow from the Big Blue River would have increased the stage in the Kansas River by 5.3 feet.

You may answer that for the record.

General CHORPENING. I would like to do that, sir, because that is a rather involved statement there.

What is the date of that report, may I ask?

Mr. RABAUT. October 2. That is last year.

General CHORPENING. We will supply that for the record.

(The material referred to follows:)

In order to comment on the statement made by the United States Geological Survey relative to the effect of discharge from the Blue River on the stages of the Kansas River at the mouth, it would be necessary to obtain from them the rating curves at the mouth used in preparing the statement and carefully analyze them. Since these rating curves are not available to us in Washington at this time, it is impractical to comment on the statement. In this connection it should be noted however, that the rating curves upon which the effect of various discharges are measured varied materially throughout the valley depending upon the natural configuration of the terrain. The future construction of local protection works, which confines the flow in the basin, would also materially change the effect of Blue River discharges in the stages of the Kansas River Basin.

ESTIMATED COST

Mr. RABAUT. Is the estimated cost based on the project as contemplated in the authorizing legislation, or as contemplated in the Kansas review report now before Congress?

General CHORPENING. It is on the estimated cost in the review report now before the Congress.

Mr. RABAUT. What provisions are made for the installation of power at this project?

General CHORPENING. No provision is made for installation of power. There is no power proposed or authorized in the project.

Mr. RABAUT. Is there any proposed in the review report?

General CHORPENING. No, sir.

Mr. KERR. How long has this Tuttle Creek been a danger to the farm land and the area which it floods? It seems here that you have had three or four acts of legislation with reference to it. One was in 1938; another in 1941, and then in 1944 another. Why has this reservoir been neglected so long?

General CHORPENING. It has been neglected so long, Mr. Chairman, because there has been so much violent opposition to the project locally and within the State?

The people downstream generally, particularly in Kansas City, had long advocated this project for construction.

The Corps of Engineers has, through the years, strongly advocated its construction.

However, there was so much opposition to it otherwise that it never got to the point of receiving construction funds.

Mr. DAVIS. General, is there complete authorization for this project as contained in this justification?

General CHORPENING. Yes, sir.

Mr. DAVIS. The project contemplated by the pending report and proposed legislation now before the Public Works Committee?

General CHORPENING. Yes, sir.

Mr. DAVIS. The statement in the justification, with respect to power, that none is presently planned, interests me. Did the engineers consider power for this project and then discard it as impractical?

General CHORPENING. In all projects, we are directed to consider under acts of Congress, to take into account all possible benefits that might accrue.

So in this one, as in others, we considered whether power could be economically justified. We concluded in coordination with the Federal Power Commission and others, as we always do, that power is not justified here.

Mr. DAVIS. Will there be a statement in the project report to that effect?

General CHORPENING. I think a statement to that effect is in our review survey.

Apparently, in the original 1938 authorizing document, there was no specific statement one way or the other. In the present document that is before the Congress, that again covers the entire Kansas River Basin, it is definitely stated.

Mr. DAVIS. You are not running the risk, then, of having a separate authorization request for power in this project at some time later, when it will involve loss of money through the failure to consider it at the time of original construction?

General CHORPENING. No, sir.

In any foreseeable period of time, I cannot possibly see how power can be justified at this project.

Mr. DAVIS. Is that because such power is plentiful in this area, or is it because there would not be a steady head of water that would justify the power installation?

General CHORPENING. We need all of the storage that is available here for flood-control purposes, and there is not very much of a steady flow in the stream.

At times there is a tremendous flow, and then, again, it drops off to practically nothing. It is a fairly high head dam, but those are the basic reasons.

We need the storage for flood control, and the flow is so relatively intermittent, it varies from 2 cubic feet per second to 100,000 cubic feet per second according to our records.

Mr. DAVIS. Would your general statement be that the controversy over the building of this project has subsided considerably since last year?

General CHORPENING. From our view, in official circles, at least, there has been a decided change in favor of the project. As to the local people, those right in the vicinity I can't say there has been a decided change.

Mr. DAVIS. Has the Corps of Engineers carefully examined the alternate suggestions that have been made and found them wanting?

General CHORPENING. Yes, sir.

Could I inquire just what alternate suggestions you had in mind there? I am thinking of the small dams that were discussed previously with Mr. Rabaut.

Mr. DAVIS. That is what I had in mind.

General CHORPENING. Yes, sir.

Mr. DAVIS. Your answer would be, then, that, in the opinion of the corps, there is no alternative to the program which called for flooding, at least intermittently, of a large amount of what is now valuable farm land?

General CHORPENING. That is correct, sir.

I might say that some percentage of that land is already flooded by nature. We cannot just say that this 72,000 acres is land that never gets flooded now, because there is quite a portion of it, when you get 100,000 cubic feet per second going down that stream, that is flooded by nature.

PRESENTATION TO THE BUREAU OF THE BUDGET

Mr. DAVIS. Was this matter presented to the Bureau of the Budget before, or after the conference report on this fiscal year's flood-control appropriation was published?

General CHORPENING. This was preesnted to the Bureau of the Budget before, because we were holding our hearings before the Bureau of the Budget on the fiscal 1953 budget before the final appropriation bill had been passed.

Our estimates for fiscal 1953 went to the budget about the tenth of September of 1951.

Mr. DAVIS. Did you appear personally before the Bureau of the Budget on this particular item?

General CHORPENING. I was not present the entire time when we were defending our budget before the Bureau of the Budget. I do not recall for certain whether I was present when this was defended, or not. I believe I was present. That was about the time we were getting quite a few calls up here in connection with our fiscal 1952 appropriation, and many times I had to be absent from the budget hearings to come to the Capitol.

Mr. DAVIS. The decision of the Bureau of the Budget to include this particular project was made after the conference committee made clear its intent that there should be further study on this project; is that correct?

General CHORPENING. I am not aware, of course, as to just when the Bureau of the Budget made up its mind to recommend this project to the President for inclusion in the 1953 estimate.

I do not know when the decision was made in the Bureau of the Budget.

Mr. DAVIS. Then you are not informed as to whether or not the conference report had been called to the attention of the Bureau of the Budget, are you, at the time this project was approved by them?

General CHORPENING. I can say, Mr. Davis, that we completed our presentation of the budget before the Bureau of the Budget in late October, at about the same time, as I recall it, that the conference report came out.

The reason why I cannot make a definitive answer to your question is that I do not know whether the Bureau of the Budget decided to put this in before we completed our testimony, or after, or just when.

Mr. DAVIS. General, could you obtain a statement from the Bureau of the Budget as to whether or not they had the conference report on the civil functions bill before them at the time the decision was made with respect to the inclusion of the Tuttle Creek Reservoir in this year's budget?

General CHORPENING. I can try to get that, sir.

(The material referred to is as follows:)

The Corps of Engineers is advised by the Bureau of the Budget that the conference report on the 1952 Civil Functions Appropriation Act was before that Bureau when the decision was made to include the Tuttle Creek Reservoir project in the 1953 budget estimate.

Mr. FORD. General, I would like to have a chart showing the dates that this project was first authorized, the estimated cost, and then a history showing what request was made by the Corps of Engineers of the Bureau of the Budget for funds, whether planning or construction funds, on an annual basis, and the results as far as the appropriation bills are concerned, right up to date.

General CHORPENING. Yes, sir.

Mr. FORD. Perhaps in the same chart, if not in a separate one, you might include the history of the benefit-to-cost ratio and the actual estimated cost of the project.

General CHORPENING. Yes, sir.

(The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings, part 1.)

Mr. FORD. On the basis of your present schedules and the value of the land, can you prosecute the work on this project economically with the amount of money you have requested in this budget?

General CHORPENING. Yes, sir. The basic engineering decisions on the structure itself have been made.

Mr. FORD. Did you request more than what is in the budget for this project, from the Bureau of the Budget?

General CHORPENING. No, sir. It is exactly what we requested.

Mr. FORD. What is your schedule of contemplated expenditures in future years on this project?

General CHORPENING. 1954, $21 million; 1955, $21 million; 1956, $18 million; 1957, $2,918,900.

Mr. FORD. I think earlier in your estimony, General, you indicated the Corps of Engineers had analyzed the alternative proposals, including, I presume, proposals by the Department of Agriculture for the handling of this problem.

General CHORPENING. Yes, sir.

Mr. FORD. Has the corps a summary or a complete report showing the corps' opinion of the alternative plans?

General CHORPENING. Yes, sir. In the present report now before the Congress we go into that rather exhaustively. In that report, which is House Document 642 of the Eighty-first Congress, second session, there are some very detailed tables made up on the summary of cost and benefits for alternate Big Blue Reservoir plans.

Mr. FORD. Does this chart that you have mentioned show the difference in acres to be acquired and inundated and all the other issues?

General CHORPENING. I would like to make this further statement: That these alternate plans we are discussing here are on smaller reservoirs that we considered, but we do not get down to the smallness of reservoirs generally considered by the Department of Agriculture.

Mr. FORD. I would like to have for the record, if it is agreeable to the rest of the committee, the corps' rebuttal to the innumerable requests we get from people wanting to know why we should not approve appropriations for this particular project.

In other words, I just want to be able to have some information to inform them when they ask us the question. I would like to have a rebuttal prepared and inserted in the record.

General CHORPENING. We can give you a statement which will be an elaboration of what I previously said in answer to Mr. Rabaut's question.

Mr. FORD. In that rebuttal show comparative figures as to acreage to be inundated and all the other information that would be helpful?

General CHORPENING. We will.

I can say that we have never gone to all the individual little spots where these small dams might be built, but we can make for you an analysis of what it would take in the number of small reservoirs here and there to impound the amount of water we must impound to stop floods on the river.

Mr. FORD. Also tie that rebuttal into the effect that the alternative plans might have on the situation in Kansas City, because, in reality, the only justification for this dam and reservoir is the eventual benefit downstream, to Kansas City and other communities.

General CHORPENING. Manhattan, of course, immediately below the project, and then down the line, Topeka, and all the towns that exist along the Kansas and Missouri Rivers and the Mississippi River.

Mr. FORD. General, could you include in the record also some data showing the flood history in this area, some actual information showing the flood history of this area?

General CHORPENING. We can do that.

(The material referred to is as follows:)

With reference to the request of Mr. Ford for further information, including comparative data on acreage inundated and other factors that would be helpful, our records indicate that no plans for upstream measures have been proposed

which would have any effects that would require consideration in determining the scope of and need for the project under consideration. Neither the Office, Chief of Engineers, nor the offices of the Division and district engineers concerned, have been advised by the Department of Agriculture of any specific plans for development of the upper watershed. In the discussions of the Corps of Engineers' plans for the area affected by this project, representatives of the Department of Agriculture did not offer any comments to indicate that the measures under consideration by that Department would produce results that would affect the design capacity or justification of the measures proposed by the Corps of Engineers. In the absence of any plans for development of the upper watershed, it is, of course, impossible to present comparative data as to acreage inundated, relative effects, etc. The information available to us, however, indicates clearly that any measures which are under consideration would not give downstream effects comparable to the Corps of Engineers' projects and would not change the need or justification for them.

RELOCATION DATA

Mr. FORD. About how many people will actually have to be moved as a result of the reservoir project you have in mind?

General CHORPENING. We do not have the number of people who will actually have to be moved out, but I can supply that.

Mr. FORD. Could you approximate it?

General CHORPENING. Yes, sir.

Mr. FORD. Also the number of farms.

General CHORPENING. The number of farm units; yes.

(The material referred to is as follows:)

It is estimated that the construction of Tuttle Creek Reservoir will require that approximately 3,000 people be relocated. It is also estimated that 225 farm homesteads will need to be acquired under the land acquisition program. Approximately 1,725 separate tracts of land involving 400 farm units will be affected under the program of land acquisition.

WICHITA AND VALLEY CENTER, KANS.

Mr. RABAUT. We will proceed now to the next project, Wichita and Valley Center, Kans.

The total cost of the project is estimated at $13,731,000, the allotments to date are $2,663,000, the funds appropriated in 1952 amounted to $500,000, and the tentative allocation for the fiscal year 1953 is $2,500,000.

The project, as of the close of 1952, will be 19 percent completed, and that rate would be raised to 38 percent with the money requested for fiscal 1953.

General, can you make a general statement about this project?

General CHORPENING. This is a local flood-protection project, on which a relatively small amount of work has been done to date. It consists of essentially the diversion of the Arkansas River to the south of the city. In connection with that diversion, a considerable amount of excavation of the channel, of course, is involved, also building of highways and railroads across that diversion ditch.

With the funds that we are requesting in this fiscal 1953, we propose to continue the Big Slough-Cowskin floodway on the basis of 1952, and to continue work in connection with relocations of various railroads over that floodway. There are a number of railroads at Wichita, and since crossings will have to be made for them over the floodway proposed, a considerable percentage of the cost is involved in those relocations.

Wichita is the largest city in Kansas, and this project has considerable defense aspects in that there are numerous machine shops and industrial facilities located in the area with defense aspects because of the subcontract work performed for three leading aircraft companies and two small aircraft companies engaged in the manufacture of airplane parts.

Boeing Aircraft is building B–47's there, and likewise the Beechcraft Co. is making aircraft and other items for military aircraft.

Mr. RABAUT. What is the status of the railway relocations here? Can you supply that for the record?

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

Status of negotiations for relocations for Wichita and Valley Center project

Item	Estimated cost	Remarks
Atchison, Topeka & Santa Fe Ry., Englewood branch.	$295,000	Negotiation has been initiated for a relocation agreement.
Midland Valley R. R., Wichita, Kans., to Muskogee, Okla., parcel A Big Slough-Cowskin floodway, including bridge (900 lineal feet).	715,000	A relocation contract has been signed and approved. Contract plans are essentially complete for the first of 2 contracts.
Chicago, Rock Island & Pacific R. R., Minneapolis, Minn., to Houston, Tex., parcel A, Big Slough-Cowskin floodway, including bridge (919 lineal feet).	1,150,000	Negotiation for a relocation agreement is nearing completion. Plans for the first contract will be completed in February 1952.
Missouri Pacific R. R., Hardtner branch, parcel B, Big Slough-Cowskin floodway, including bridge (1,030 lineal feet).	1,131,000	Negotiation for a relocation contract has been initiated.
Missouri Pacific R. R., Geneseo branch, parcel B, Big Slough-Cowskin floodway, including bridge (900 lineal feet).	799,000	Do.
Atchison, Topeka & Santa Fe Ry., Orient Branch, Parcel "B," Big Slough-Cowskin Floodway, including bridge (1,060 lineal feet).	1,065,000	Negotiation has been initiated for a relocation agreement.
Atchison, Topeka & Santa Fe Ry., Chicago, Ill., to Oklahoma City, Okla., main line, Little Arkansas floodway, includes raising of 2 existing bridges (123 lineal feet).	177,000	Negotiations have not been initiated.
Atchison, Topeka & Santa Fe Ry., Chicago, Ill., to Oklahoma City, Okla., main line, Chisholm Creek interception canal, including 2 bridges (422 lineal feet).	190,000	Do.
St. Louis-San Francisco Ry., Ellsworth Branch, Little Arkansas floodway, including bridge (900 lineal feet).	760,000	Do.
St. Louis-San Francisco Ry., Ellsworth Branch, Chisholm Creek, interception canal, including 2 bridges (422 lineal feet).	147,000	Do.
Total	6,429,000	

CONTRIBUTIONS BY RAILROADS

Mr. RABAUT. Can you tell us, General, the extent of the contributions by the railroads to this project, and the relocations? Do they contribute anything?

General CHORPENING. No, sir; they do not contribute anything, sir, under the Flood Control Act of 1946. This has come up a number of times.

Could I read this section in the Flood Control Act of 1946, that covers it?

Mr. RABAUT. All right.

General CHORPENING. Section 3:

that hereafter, for authorized flood protection projects which include alterations of railroad bridges, the Chief of Engineers is authorized to include, at Federal expense, the necessary alterations of railroad bridges and approaches in connection therewith.

Mr. RABAUT. When was that law passed?

General CHORPENING. 1946, sir.

Mr. RABAUT. I think that with the many times that this situation confronts the engineers, that, in the interests of their relationship to the Government, they should have long ago said something about this provision in the law. Some of this does not seem fair to the Government.

Maybe I am wrong, but if the engineers had a similar feeling that it seems to be unfair to the Government, why has not some proposal been made for some change in it?

General CHORPENING. I have not reviewed testimony taken before the committees of Congress at the time that law was passed, but I would imagine that some testimony was given there as to the views of the Corps of Engineers.

Mr. RABAUT. Just make any kind of check, as we review these projects, and you will see what these relocations are costing the people of the United States. It is a staggering amount. They are not entirely unbeneficial to the railroads and the facilities that are improved.

In any other sections of the law, when there is something like this done, there is amortization taken into account. Here there appears to be nothing taken into consideration.

You have one of these projects authorized, and then they neglect some structure they have for years. They say, "Well, take care of Swanee Creek. We will get our new bridge."

Mr. FORD. If I may add something to what Mr. Rabaut has said: If I recall the language that you just read, there is nothing mandatory, that the Chief of Engineers "shall" include reimbursement for relocation costs to the various railroads.

It simply says in effect that he "may," and maybe the corps has taken that to mean a mandatory reimbursement.

General CHORPENING. It says "is authorized."

Mr. FORD. That does not say "shall."

That is a considerably different phraseology than if there was a direction.

Mr. RABAUT. Is there any leeway at all for the engineers according to the corps interpretation of the language?

General CHORPENING. Either we would have to authorize it and do it across the board, or not do it. With this kind of language passed by the Congress, we would have to, I think, and we would be in a rather unusual position if we did not do it.

Apparently the Congress, in passing this, looked favorably upon it, and we thus interpret it.

Mr. RABAUT. As a very active member of this committee for many years, I never said anything about this problem, but when I see to what extent the railroads get themselves involved in opposing the St. Lawrence seaway, I begin to call to their attention a few things that might be involved in the entire program.

Mr. FORD. Mr. Chairman, if I might, I would suggest that we ask for a legal interpretation as to whether or not that language is mandatory, to be given to the committee and included in the record.

Mr. RABAUT. Suppose you file for the record the legal interpretation of that section to which we have been referring, General.

General CHORPENING. Yes, we will do that.

(The material referred to is as follows:)

The legal interpretation requested is as follows:
"Section III of the 1946 Flood Control Act is not considered to be a mandatory requirement for the Chief of Engineers to include at Federal expense the necessary alteration of railroad bridges and approaches in connection with such alterations as are required for authorized flood protection projects."

Mr. RABAUT. What is the extent of contributions to this project by local interests, General?

General CHORPENING. Local interests are required to furnish all lands and perform highway and utility relocations, which have an estimated cost of $5,930,000.

Mr. RABAUT. How do you propose to obligate $1,679,867 between January 1 and the end of the fiscal year?

Mr. BOUSQUET. There is a list of about six contracts.

Mr. RABAUT. Can you supply that for the record?

General CHORPENING. Yes, sir.

(The material referred to is as follows:)

The following is a breakdown of the proposed application of $1,679,867 for the balance of fiscal year 1952, which was unobligated on December 31, 1951:

Item	*Amount*
Construction engineering	$27,867
Government costs	29,000
Construct Big Slough-Cowskin floodway, parcel A, phase 11	290,000
Construct (relocate) grading and trackage for Midland Valley R. R., parcel A	95,000
Construct (relocate) bridges and necessaries for Midland Valley R. R., parcel A	295,000
Relocation agreement with Chicago Rock Island & Pacific R. R., parcel A	500,000
Relocate trackage for Chicago, Rock Island & Pacific R. R., parcel A	120,000
Relocate trackage and bridges for Missouri Pacific R. R., parcel B	73,000
Relocation agreement with Atchison, Topeka & Santa Fe R. R., parcel B	250,000
Total	1,679,867

UNOBLIGATED FUNDS

Mr. RABAUT. Last year the corps informed the committee that $860,000 would remain unobligated on June 30, 1951. Your actual balance was $1,232,149. How do you explain this, and can we expect the same thing with reference to the present estimate?

General CHORPENING. Those were funds that were held in escrow, more or less, as a result of the directive to look into our program and hold up construction on those that we at that time considered did not have sufficient defense value to proceed with.

As to the difference between the $860,000 that we anticipated, rather than the $1,232,149, I do not have a ready explanation for that, sir.

Mr. RABAUT. If it did not have much of a defense value before, are you going to walk into the same situation again now?

General CHORPENING. I do not think so, sir.

Mr. RABAUT. Why not?

General CHORPENING. Because since that time, as I have described, we know that there is a very considerable number of contracts that have been let to various aircraft companies there for the manufacture of a large amount of military aircraft.

While those plants of themselves might not be subjected to floods, the facilities there, the people, would be, and it would seriously affect the national-defense picture.

BENEFIT-COST RATIO

Mr. FORD. What was the benefit to cost ratio last year? This year in the justification it is given as 1.02 to 1.

General CHORPENING. Last year the benefit-cost ratio was the same as this year, 1.02 to 1.

Mr. FORD. Comparatively speaking, 1.02 to 1 is a very low benefit to cost ratio.

General CHORPENING. That is correct, sir. We believe, in view of the growth of this city—and it is growing rapidly—and the increase in the industrial establishments there, that a later reevaluation will probably show some increase in that benefit-cost ratio.

Also, the flood on the Arkansas last year, on the Arkansas itself, if I recall correctly, was over a foot higher than any previous flood of record, which would probably serve to change our cost-benefit ratio considerably on a reevaluation.

CONTINUING CONTRACTS

Mr. FORD. Under relocations, for the Missouri Pacific Railroad, parcel B, in fiscal year 1953 you would spend $900,000. Would that be a continuing contract that would be initiated the next fiscal year?

General CHORPENING. That is correct, sir.

Mr. BOUSQUET. That is proposed for June 1, 1952. Seventy-five thousand dollars was appropriated through 1951.

General CHORPENING. We would not enter into that unless the appropriations for fiscal 1953 had been finalized by that time.

After all, we would not go into a continuing contract unless we knew we were going to have the funds to continue it through.

Mr. FORD. In other words, you have not as yet spent that $75,000 which was appropriated in fiscal 1951.

General CHORPENING. I can say this right now: That I would not tolerate entering into a continuing contract with a small amount like that unless I was certain that we were going to have funds coming along in fiscal 1953.

LOCAL CONTRIBUTIONS

Mr. FORD. On page 255 of the justifications, there is an indication that the local interests have not completely met the requirements for the acquisition of right-of-way and so forth.

General CHORPENING. Are you referring to the statement that approximately 80 percent——

Mr. FORD. That is correct.

General CHORPENING. At this time, as far as we have gone with the project, not all of the right-of-way needs to be purchased by the local interests. Sufficient has been procured for us to go ahead with construction. But they are provided as needed ahead of the construction.

I am very familiar with what is going on down there because I assisted in advising the city in connection with setting up their own organization, what they had to do to provide these rights-of-way, and

I know that the machinery is all there and the city has been most progressive and cooperative in procuring the rights-of-way for us after their legal entanglements had been straightened out.

Mr. FORD. There is no doubt that they will be able to keep ahead of you in the future, then, is there?

General CHORPENING. No doubt at all in my mind.

ESTIMATED COST

Mr. FORD. Has there been any change in the cost estimate of this project?

General CHORPENING. No, sir; none since last year. I will say none since we asked for funds in the supplemental of last year.

SCHEDULE OF EXPENDITURES

Mr. FORD. What is your schedule of expenditures in the future on the project?

General CHORPENING. For 1954, $2,700,000; 1955, $2,960,000; and in 1956, $2,908,000.

URGENCY OF THE PROJECT

Mr. FORD. Was this project requested by the Corps at any time your submitted your over-all requests to the Bureau of the Budget for fiscal year 1952?

General CHORPENING. No, sir.

Mr. FORD. In other words, so far as the Corps is concerned, there was not any urgency for the project at the time the 1952 budget was submitted to the Bureau of the Budget?

General CHORPENING. In considering the urgency of the project we considered whether or not it was within the ceiling given to us at that time, and according to what we knew, we did not believe we should ask for funds at that time.

Mr. FORD. It was submitted after the flood of 1951, however, was it?

General CHORPENING. That is correct, sir.

ASHLAND, KY.

Mr. RABAUT. We will take the next project, Ashland, Ky.

This is a project with a total estimated Federal cost of $4,175,000 and allotments to date of $3,275,000. The amount appropriated in fiscal year 1952 for this project was $2,000,000, and the tentative allocation for fiscal year 1953 is $900,000.

This project is well along on its way. At the close of fiscal 1952, it will be 78 percent completed and the $900,000 requested for 1953 will bring it up to 100 percent completion.

Can you give us a brief statement on this project, General, justifying what has been done up to the present time and what you intend to do with the $900,000?

General CHORPENING. This is a local flood protection project on the Ohio River, to take care of the city of Ashland, Ky.

It consists essentially of levees, flood walls, pump stations.

The bulk of the funds being requested for fiscal 1953 will go into the completion of section 3, which is a levee, under a continuing contract, and for completion of pump stations.

With the funds requested this year, the project will be completed.

Mr. RABAUT. I notice there are two items here, one for $740,900, under section 3, the remaining wall levee, and then there is a $121,000 item for electric power and pump stations and minor items of work.

Mr. FORD. There has been a change in the benefit to cost ratio. Last year it was testified to being 1.01 to one. This year it is 1.02 to one. How do you account for the change?

General CHORPENING. Actually, the cost here has decreased $550,000, so that that increase in the benefit-cost ratio comes more from the decrease in cost than from anything else.

Mr. FORD. Is there a decrease in cost from the estimate the committee was given last year?

General CHORPENING. Yes, sir; $550,000.

COVINGTON, KY.

Mr. RABAUT. Next we will take up the item, Covington, Ky.

This is a project with a total estimated Federal cost of $8,700,000, allotments to date are $4,799,200, the amount appropriated in fiscal 1952 was $1,400,000, and the tentative allocation for fiscal 1953 is $900,000.

This project, percentagewise, will be 55 percent completed as of the close of fiscal 1952, and the money requested for 1953 will bring the rate to 65 percent.

I note that this project requires money for section C, which is the Licking River levee and wall, in the amount of $886,700, and miscellaneous construction in the amount of $7,500, and engineering and design in the amount of $5,800. That constitutes all of the money.

General CHORPENING. All that is asked for; yes, sir.

Mr. RABAUT. Is there anything further than that to be said about this project?

General CHORPENING. It is a typical local flood protection project on the Ohio River, at the city of Covington, Ky. Two parts of it have been completed, and with the funds appropriated last year we have initiated construction on section C of the levee and the wall and the pumping plant.

Mr. FORD. General, this year the cost of this project is up $300,000. How do you account for that?

General CHORPENING. Since there is a considerable amount of work still remaining in future years, and in view of the experience there, we have felt the estimate should be increased $300,000, which is engineering cost index increase.

Mr. FORD. Last year the benefit to cost ratio was indicated to be 1.1. That is the same benefit to cost ratio as this year.

In the survey report, the figure was 3.31.

General CHORPENING. I think the answer to that, sir, is that although the costs of construction have gone up very considerably since the project was authorized back in 1938, the value of the property that is protected has not gone up commensurately.

Mr. FORD. Can you actually spend $1,736,700 on section C in 1 year?

General CHORPENING. That will be over a period of about 1½ years, whenever they are planning to award that contract.

We are proposing to award a contract this month for the pumping station in section C and for the section C levee and wall in May of this year.

So that we will have this full working season and a part of the working season in calendar 1953 for the expenditure of these funds.

Mr. FORD. Who will maintain and man the pumping station on this project?

General CHORPENING. Local interests.

Mr. FORD. How much control do you have over them as to the manner in which they will man and maintain these projects?

General CHORPENING. We have considerable control on each completed local protection project throughout the Nation. We conduct inspections at least once, and probably twice, each year to see whether the local interests are in fact maintaining the projects in the proper fashion. If not, we call in the officials and tell them wherein we do not think they are maintaining them properly.

At the time of completion of these projects maintenance manuals are prepared by our offices and turned over to the local interests. Those manuals are in considerable detail, which delineates what they must do in connection with the care of the pumps, the care of the motors, the maintenance of the concrete walls, the maintenance of the levees.

I can state from personal experience that I have called in officials of counties and of levee districts many times.

Mr. FORD. Just what do you do if they say, "Well, we just cannot do it; we are sorry"?

General CHORPENING. We have no powers of coercion as such. We can point out to them that the contract in effect has been signed with the Federal Government; that they will maintain the structures.

Actually, in the field, you have to resort to many stratagems occasionally to get local interests to do what they should do.

Many times, too, we point out to them that if they do not maintain these projects, they are for their protection and they are going to be the ones that suffer.

Mr. FORD. Do you ever use any of your emergency funds to do work which the local interests right along, by contract, are required to do?

General CHORPENING. No, sir. If a flood happens and those local protection projects are damaged or overtopped, then our emergency moneys are available to make the necessary repairs.

But as far as using our funds for maintenance—no, sir.

LOUISVILLE, KY.

Mr. KERR. The next project is Louisville, Ky.

Will you tell us about this, General?

General CHORPENING. The total estimated cost is $27,288,000, the allotments to date amount to $19,299,200, the 1952 appropriation is $4,500,000 and the tentative allocation for fiscal 1953 is $4,500,000.

This is a local flood-protection project which will be approximately two-thirds completed with the funds that have been allotted to date, and the funds being requested for fiscal 1953 will bring it to 87 percent.

We propose to continue construction on the State Fairgrounds pumping plant, the Beargrass Creek pumping plant, the Buchanan and Fourth Street pumping plant, and the Lower Paddy Run, Mill Creek, and Lee's Land pumping plant, also to initiate work on section AA.

The cost estimate on this project has been increased, over last year, $1,588,000. This is due to the fact that we have had some rather high bids in connection with our pumping plants; and, since the great amount of work remaining is on pumping plants, we have considered that we should revise our estimates upward, in view of the experience that we have had.

Pumps are rather difficult items to get, and we seem to have had extremely high bids, at least here.

Mr. KERR. Have you placed these pumps yet?

General CHORPENING. Some of them we have; others we are in the process of advertising at this time.

Could you state, Mr. Bousquet, our plans for obligating the fiscal 1952 funds?

Mr. BOUSQUET. The unobligated balance, as of December 31, 1951, is in the amount of $3,991,378. It is proposed to let a contract for the construction of the Buchanan and Fourth Streets pumping plant in January, in the amount of $464,000; award of contract for the construction of State Fairgrounds pumping plant in March of 1952, in the amount of $1,300,000; award a contract for the pumping plant equipment at the Lower Paddy Run, Lee's Lane, and Mill Creek pumping plant in April of 1952, in the amount of $770,000; award a contract for the pumping equipment at Beargrass Creek pumping plant in May 1952, in the amount of $1,245,000.

The Government costs, from January to June, amount to $160,000, and the engineering and design, January to June, $50,000.

Then there is expected to be an unobligated balance of about $2,378.

Mr. FORD. Section AA envisages the initiation of a new contract involving $250,000, which will be expended in the 1953 fiscal year. Is that an integral part of any of the other work you are doing?

General CHORPENING. Yes, sir.

Mr. FORD. Last year, General, on page 457, at the bottom of the page, appears the following:

> Mr. RABAUT. This shows after this year's appropriation that you will need an additional sum of $6,400,800.
> Colonel POTTER. To complete the project; yes, sir.
> Mr. RABAUT. Are you going to stay within the amount of money?
> Colonel POTTER. We expect to; yes, sir.

Now, I notice that the cost has gone up on the project $1,588,000.

General CHORPENING. We always expect to, sir; but we cannot foresee the future bids that we are going to get.

Mr. FORD. This increase is the result of a recent bid; is it?

General CHORPENING. Yes, experience in connection with pumping plants.

Mr. FORD. How many bidders did you have on the contracts to which you refer?

General CHORPENING. I would have to look that up.

Mr. FORD. Was there a sufficient number to indicate that it was the best you could possibly get?

General CHORPENING. Yes, sir.

Mr. FORD. There was nothing you could foresee there; was there?

General CHORPENING. No, sir. We encounter situations in localities where the bids received are just considerably greater than we have estimated they would be.

But, as I stated, we will award up to 25-percent higher than our estimate.

Mr. FORD. Is there any prospect of further increases on this project?

General CHORPENING. I sincerely hope not, sir.

Mr. FORD. Last year, the benefit-to-cost ratio was 2.2; this year the benefit-to-cost ratio is 2.3 to 1. The benefit-to-cost ratio has increased despite the fact that the cost of the project has materially increased.

General CHORPENING. That is due to the fact that we have made a reevaluation of the cost estimate as well as the benefits; and the result is that, although the cost has increased, the benefits have increased even to a greater extent.

MAYSVILLE, KY.

Mr. RABAUT. The next project is Maysville, Ky.

This is a project with a total estimated cost of $6,244,300. The allotments to date amount to $2,324,800; the money appropriated in 1952 was $1,000,000, and the tentative allocation for fiscal 1953 is $1,000,000.

The percentage of completion as of the end of 1952 is 37 percent, and the new money for 1953—it will bring it to 53 percent.

Can you give us a brief statement on this project, General?

General CHORPENING. This is another local flood-protection project on the Ohio River, at the city of Maysville, Ky. It is a typical flood-control protection project consisting of earth levee, concrete wall, pump stations, and necessary appurtenances.

With the funds requested for fiscal 1953, we propose to continue with the construction of section 3, and the Limestone Creek barrier and pumping stations.

Mr. RABAUT. And there is also engineering and design.

General CHORPENING. Continue engineering and design; yes, sir.

Mr. RABAUT. Those four items will bring it up to $1,000,000; is that correct?

General CHORPENING. That is correct, sir.

Mr. RABAUT. I note that it will take $2,919,500 to complete this project. I suppose you do not expect to do that all in one year.

General CHORPENING. No, sir; we do not.

Mr. FORD. There is a substantial amount of unobligated funds as of December 31, 1951, there. Could you give us some breakdown of time and manner in which these funds will be expended?

Mr. BOUSQUET. The total unobligated funds as of December 31, 1951, amounts to $1,057,200. It is proposed to award a contract for the construction of section 3 in the amount of $960,000 in March of 1952. The Government costs associated with this amount to about $22,000.

We propose to award an architect-engineer contract for design of the pumping stations in the amount of $50,000 in March of 1952, with other engineering and preliminary work in the amount of $25,200.

That accounts for the entire amount.

Mr. FORD. $300,000 of the funds requested for fiscal 1953 is allocated to the purchase of pumping equipment. When do you expect to award that contract?

Mr. BOUSQUET. We will have to supply that for the record, if that is satisfactory.

Mr. FORD. Yes.

(The material referred to is as follows:)

The contract for the purchase of pumping equipment for the Maysville project is proposed for award in September 1952.

CONTINUING CONTRACT

Mr. FORD. With the construction of Limestone Creek gatewell, you will be initiating a new continuing contract in fiscal year 1953; is that correct?

General CHORPENING. Yes, sir.

Mr. FORD. Last year, it was testified that there was some increase in the construction cost due to the Engineering News Index. This year there is a $405,000 increase in the estimated over-all cost. How do you account for the increase this year?

General CHORPENING. Again, an increase in the Engineering News Index; and, as I stated before, we have had some experience in connection with the Louisville project, with pumps and pumping stations, which causes us to believe that we are going to have similar experience here, and we have increased our estimate accordingly.

BENEFIT-COST RATIO

Mr. FORD. The benefit-to-cost ratio on this project has decreased from 1.21 to 1 to 1.11 to 1.

How do you account for that?

General CHORPENING. It is accounted for by the increase in the estimated costs without compensating increase in benefits.

Mr. FORD. I notice in the survey document the benefit-to-cost ratio was 1 to 1. Is not that a little unusual that a project like that would ever come up before the Committee on Appropriations for construction funds?

General CHORPENING. Not necessarily. If a project is anything over 1, it is a justified project.

Mr. FORD. At the rate we are going now, the project is on its way down to 1.11 to 1.

You would not recommend the project now, as a new project—would you?—so far as appropriations are concerned?

General CHORPENING. Not unless it had at this time some very outstanding defense implications.

Mr. FORD. If it had outstanding defense implications, it certainly would have a better than unity benefit; would it not?

General CHORPENING. Not necessarily, sir. The dollars-and-cents value that you could determine might not be very great, but the impact of that damage might be great.

I am thinking of a hypothetical case here. You might have a factory making something that fits in vitally to some end item, where the dollars-and-cents value might not be too great. I do not know of any such case just offhand, but it is possible.

TUESDAY, JANUARY 29, 1952.

NATCHITOCHES PARISH, LA.

Mr. RABAUT. We will take up Natchitoches Parish, La.

This is a project with a total estimated Federal cost of $1,830,000. The allotments to date have been $1,129,100, and the amount appropriated for fiscal year 1952 was $360,000. The tentative allocation for fiscal year 1953 is $500,000. This project as of the close of 1952 will be 62 percent complete, and with the money requested for fiscal year 1953 the rate would rise to 89.

General Chorpening, we will be glad to have you tell us about this project.

General CHORPENING. This is a local flood-protection project, consisting of levees, dams, floodgates, and a channel. The funds requested this year in the amount of $500,000, will be applied to the dam, floodgates, and channel entirely, the levees having been built with the funds appropriated in previous years.

The benefit-to-cost ratio is 1.1 to 1. There has been an increase in cost of $70,000 over the previous estimate. This increase in costs is due entirely to price level changes.

Mr. RABAUT. Which is within the cost index increase?

General CHORPENING. Yes, sir.

Mr. KERR. This project is 62 percent completed?

General CHORPENING. It will be 62 percent completed with the funds received this year, and will be 89 percent completed with the funds that we are asking for fiscal year 1953.

Mr. FORD. This project was not included in the budget for the fiscal year 1952; we had no hearings, and there was no mention of it as being an urgent project. Did the corps request it over in the Senate at the time of the hearings over there for the fiscal year 1952?

General CHORPENING. No, sir.

Mr. FORD. I think that is understandable, when you see the benefit-to-cost ratio was 1.1 to 1. Do you have any idea how it got in the bill last year over in the Senate?

General CHORPENING. I believe that the local interests were heard by the Senate Appropriations Committee and that the Senate concluded it was a meritorious project that should be included in the appropriation.

Mr. FORD. What is the story about the conflict among the local interests, which has extended over a period close to 10 years?

General CHORPENING. I believe that there was a difference of opinion as to where the dam and floodgates were to go, which differences were finally resolved among the local people; they are now satisfied and they testified that they were in agreement, I believe.

ANNUAL BENEFITS

Mr. FORD. What is the annual benefit to be derived from this project?

General CHORPENING. The annual benefits are estimated at $104,500. It is primarily a local flood-control project, including levees along the Red River to keep the water of the Red River off approximately 135,000 acres of land and the improvement of the channel at the lower

end. We are asking funds for the improvement of the channel to carry the water out of the Cane River down to a point approximately 5 miles below the end of the levee and discharge it into the Red River.

BENEFIT-TO-COST RATIO

Mr. FORD. I understand the benefit-to-cost ratio at the time of the hearings last year before the Senate committee was 1.58 to 1. According to the justification this year it is 1.1 to 1. How do you account for the rather substantial decrease in the benefit-to-cost ratio?

General CHORPENING. I would like to look into that and place a statement in the record.

(The information requested follows:)

The benefit-to-cost ratio of 1.58 to 1 used in connection with the 1952 budget was based on consideration of the project as an individual unit within the over-all plan for the Red River below Denison Dam. The benefit-to-cost ratio of 1.1 to 1 considers the project as a feature of the over-all plan. The present benefit-to-cost ratio which would be comparable to last year's ratio of 1.58 to 1 is 1.73 to 1.

PROGRESS OF WORK

Mr. FORD. I understand, according to the justifications, the dam, floodgates, and channel have not as yet been started, and the $500,000 requested for the fiscal year 1953 is for that purpose.

General CHORPENING. No, sir; the $360,000 allotted in 1952 will be applied toward the initiation of that work; the $500,000 requested for fiscal year 1953 will be applied to the continuation of that work.

Mr. FORD. Has a contract been let for the dam, floodgates, and channel for fiscal year 1952?

Mr. BOUSQUET. No, sir; it is scheduled for award in April of 1952.

CUMBERLAND, MD., AND RIDGELEY, W. VA.

Mr. RABAUT. The next item is for Cumberland, Md., and Ridgeley, W. Va.

This is a project with a total estimated Federal cost of $14,500,000; the allotments to date, $3,745,200, and the amount appropriated in 1952 was $1 million.

The tentative allocation for the fiscal year 1953 is $1,300,000.

This project was authorized under the Flood Control Acts of 1936 and 1946. As of the close of fiscal year 1952 it will be 26 percent completed, and the money requested for 1953 will bring the completion rate to 35 percent.

EXPENDITURE OF FUNDS

Tell us what is expected to be done on this project, General Chorpening, and what has been done with the funds requested in previous years.

General CHORPENING. This is a local flood-protection project up in the headwaters of the Potomac River to protect the towns of Cumberland, Md., and Ridgeley, W. Va.

It is a rather unusual and complicated local flood-protection project, which requires a considerable amount of work in connection with straightening out the sewer outlets, water lines, and an industrial dam. A rather complete description of the project was given by Colonel Potter last year.

INCREASE IN COST

Mr. RABAUT. What is the reason for the $1.6 million increase in the estimate of cost?

General CHORPENING. The estimate for this project was revised to $12,400,000 in 1948 to take into account changed price levels since 1942. In 1949 the estimate was retained at $12,400,000 because of a local labor surplus, in contrast to a 6.1 percent increase in the Engineering News Record Construction Cost Index during the 1948–49 period. In 1950 a provisional estimate of $12,900,000 was adopted by the Corps of Engineers. The estimate of $12,900,000 in 1950 represents a 4 percent increase over the $12,400,000 estimate of 1948, as compared to an 11.6 percent increase in the Engineering News Record Cost Index over the same period. The estimate of $14,500,000 developed in July of 1951, was based on labor conditions then prevailing in the Cumberland area, and it takes appropriate account of the changed local construction costs in the 1948–51 period. In summary, the change from $7,420,000, 1942 base, to $14,500,000, 1951 base, is about 1 percent less than the corresponding change in the Engineering News Record Construction Cost Index over that period, with consideration given to the cost of work in place

EXPENDITURES

Mr. KERR. How much of the allotted $3,745,200 has been used?

Mr. BOUSQUET. The unobligated balance on December 31, 1951, was $889,560.34.

Mr. KERR. And the remaining part of the $3,745,200 has been allocated?

Mr. BOUSQUET. Allocated or expended, sir.

BENEFIT-TO-COST RATIO

Mr. FORD. General Chorpening, according to the record of last year the benefit-to-cost ratio has gone up slightly this year, despite the fact the cost increase has been material for fiscal 1953.

General CHORPENING. That is occasioned by a recent reevaluation of benefits made since the hearings last year.

Mr. FORD. What are the new benefits?

General CHORPENING. $811,200 annual flood-control benefits.

Mr. FORD. What are the new benefits that result in the increase?

General CHORPENING. The benefits are not new benefits as such, but a reevaluation of the benefits and the value of the property and lands that are protected by the project.

CONTINUING CONTRACTS

Mr. FORD. According to your justifications, on page 272, $1,260,000 will be spent to complete a continuing contract on the Wills Creek channel section 1; is that correct?

General CHORPENING. That is correct.

Mr. FORD. $40,000 would be spent for the land; that money spent for land would be for other portions of the project?

General CHORPENING. That is a part of it, for this portion of the project along Wills Creek.

Mr. FORD. Is that for section 1 or section 2?

General CHORPENING. I am certain that is for section 1, but I would like to check it.

Mr. FORD. Will you check it and correct the record accordingly?

General CHORPENING. Yes, sir.

(The information requested is as follows:)

The $40,000 requested for land acquisition in fiscal year 1953 is required for acquisition of property in connection with the continuing contract for construction of Wills Creek section 1.

LOCAL INTERESTS

Mr. FORD. According to the justification, the local interest contribution is $500,000 cash. Is that a set amount in the survey document, or has it increased as a result of the cost of the project increasing?

General CHORPENING. That was a set amount. The local interests are required in this project to provide certain land easements and right-of-way, and to replace certain highway bridges and make changes in certain storm sewers for drainage work and relocate other utilities.

The total estimated cost to local interests for the entire project is $2,500,000.

Mr. FORD. Was the $500,000 a set amount in the original survey document as the amount they should contribute?

General CHORPENING. I believe that is correct. I would like to check the amount.

(The information requested is as follows:)

The cash contribution of $500,000 made by local interests was based on the Government estimate of the work required to be accomplished by local interests in connection with the construction of group II of the pressure conduit. Local interests requested that the Government perform this work in connection with their phase of the construction work. The actual bid on the work for which local interests are responsible was considerably lower than the Government estimate and the difference of $127,000 will be returned to the city. With respect to future items, the city has agreed and will pay the actual cost of the work at the time it is performed.

APPROVAL DATE OF SURVEY DOCUMENT

Mr. FORD. When was the survey document approved?

General CHORPENING. There have been two authorizations: One in 1936 and the other in 1946.

Mr. FORD. It is conceivable that the $500,000 was determined in 1936?

General CHORPENING. I think not. I think it was in the later act.

FLUCTUATION OF COSTS

Mr. FORD. Since 1946 the cost to the Government has gone up materially.

General CHORPENING. That is correct.

Mr. FORD. Should there not be also an increase in the portion to be contributed by the local interests in cash?

General CHORPENING. Actually, outside of the $500,000 cash contribution the remaining amount of the cost to local interests, which is apparently about $2 million—includes furnishing lands and I am cer-

tain, their cost have increased as the years have gone by; since the project was approved, that portion of local interest cost would have added to the contribution.

Mr. FORD. Yet the 25 percent of local contribution has remained status quo.

General CHORPENING. If we find that that was the fixed amount in the survey document.

Mr. FORD. Is it a desirable policy to have a fixed amount of cash contribution when you have a rising price level which results in increased cost of these projects for the Government?

General CHORPENING. No, it is not desirable, and our recent thinking on that and the way we are now handling it as a policy is to provide in the survey document that the local interest will pay for certain portions of the work, and in that way if the costs go up or down the Government and local interests are protected.

STATUS OF LOCAL WORK

Mr. FORD. At what stage is the local work on this project?

General CHORPENING. The local interests have provided to date a total of $1,078,000.

Mr. FORD. How much of the $500,000 has actually been paid to the Federal Government?

Mr. COHEN. The entire amount of $500,000 has been paid to the Federal Government. In addition local interests have spent money for land and rights-of-way for the work as it progressed.

RED RIVER OF THE NORTH, MINN. AND N. DAK.

Mr. RABAUT. The next item is the Red River of the North, Minn. and N. Dak. This is a project with a total estimated cost of $11,300,200; the allotments to date, $2,444,100, and the amount appropriated for fiscal year 1952 was $700,000.

The tentative allocation for fiscal year 1953 is $550,000.

The 1953 request will bring the rate of completion to 26 percent. Will you give us an explanation of the requested expenditures?

EXPLANATION OF EXPENDITURES

General CHORPENING. This project covers various portions of the Red River of the North. You will recall the serious floods of a few years ago. It is one of the most difficult rivers in the world on which to do any real effective flood-control work. This project was studied, surveyed, recommended, and authorized as a desirable and worthwhile improvement.

ORWELL DAM

The principal work to date has been on the construction of a small dam, the Orwell Dam, and the funds requested are to complete certain portions of that dam and to complete the Otter Tail River channel improvement, which is to permit the discharge of water out of the dam on down the river without flooding the lands below.

Mr. RABAUT. Is the Orwell Dam complete now?

General CHORPENING. No, sir.

Mr. RABAUT. It should be completed with the 1952 money?

General CHORPENING. The dam will be completed with available funds, with the exception of the Tainter gate bulkheads, reservoir clearing, and a few other items.

Mr. KERR. Is the Orwell a rather small dam?

General CHORPENING. This is a relatively small dam. The reservoir has a capacity, as I recall it, of about 14,000 acre-feet.

Mr. KERR. The length of it is just about 1,355 feet.

General CHORPENING. That is right.

EFFECT OF PROJECT

Mr. FORD. Last year, on page 474 of the hearings, Colonel Potter said this in response to a question I asked him:

> This project will do much good, but it will not considerably reduce those losses.

I gather that you feel somewhat the same way, from your testimony this morning?

General CHORPENING. That is correct. Colonel Potter was speaking, and I am speaking, of the over-all losses in the Red River Valley. This is to take care of the flood situation on a relatively small portion of the entire Red River Valley.

Mr. FORD. The money you got in the fiscal year 1952 will complete the Orwell Dam?

General CHORPENING. Yes, sir.

Mr. FORD. And the money requested for fiscal year 1953 is for the initiation of entirely new work?

General CHORPENING. That is not quite right The Tainter gate bulkhead, reservoir clearance, access roads, are portions of the dam which are needed to make the dam a fully effective structure. It is set out separate from the Orwell Dam, but it is actually a part of it.

Mr. FORD. But the money requested for the fiscal year 1953 is not for anything that has resulted from the appropriation for the present fiscal year.

General CHORPENING. That is correct. Unless these other items are done, however, then we would have a dam that is not of any particular value.

REDUCTION IN ESTIMATED COST

Mr. FORD. Have you mentioned this morning the $248,000 reduction in the price estimate of the project?

General CHORPENING. No, sir.

Mr. FORD. How do you account for that?

General CHORPENING. I can account for that by the fact that we have had some additional experience in that section. We have had favorable bids, we know more about doing that work. We have gone over our estimates, and we believe that they were too high, and we have reduced them accordingly.

Mr. FORD. Does the reduction in cost account for the increase in benefit-to-cost ratio from 1.37 to 1.55?

General CHORPENING. Not entirely; it accounts for a small portion. Again, we made a reevaluation of the benefits to be gained from this project and have concluded that there are more benefits than we had last year.

AITKIN, MINN.

Mr. RABAUT. We will take the next project 30, Aitkin, Minn., which is a project with a total estimated Federal cost of $1,873,000. The allotments to date have been $672,600, and the sum appropriated in fiscal year 1952 was $600,000.

The tentative allocation for fiscal year 1953 is $600,000.

The money for 1953 would bring this project to a rate of 68 percent of completion. I notice here that, of the total sum, $1,766,200 is for construction of diversion canal and related structures, for which purpose $565,800 was assigned in fiscal year 1952, and for which, in the same category, $600,000 is requested for fiscal year 1953. Is that correct, General?

General CHORPENING. Yes, sir.

Mr. RABAUT. The remainder, which is for the completion of this project, in the sum of $600,400 will be used on continuing contracts; is that right?

General CHORPENING. That is correct.

PROGRESS OF WORK

Mr. RABAUT. Tell us what you are going to do with the funds requested, and what you have done up to date?

General CHORPENING. We received funds for the first time on this project in fiscal year 1952. This is a local flood-protection project for a town in northern Minnesota which has suffered from many floods, and particularly in the spring of 1950 they had a most severe flood which caused extensive damages to the property and suffering to the people there. The project consists of a diversion channel which will carry the Mississippi River floodwaters to the east of the town and discharge them into the regular channel at a point below the town.

Mr. KERR. How have you allocated and used the $672,600?

General CHORPENING. Of that amount, the funds prior to the fiscal year 1952 were used in connection with planning. We propose to use the $34,200 for further planning in fiscal 1952, and the remainder to initiate work on the diversion channel and structures connected therewith.

DEFINITE PROJECT REPORT

Mr. FORD. Do you have a definite project report on this project?

General CHORPENING. It is now practically completed in the field and will be in our office within the next few months.

Mr. FORD. Have you let any of the contracts on this project?

General CHORPENING. No; we just received funds in November of 1951.

CHANGE IN ESTIMATED COSTS

Mr. FORD. Has there been any change in the estimated cost of this project?

General CHORPENING. There has been an increase. Last year the estimated cost was $1,767,500, and it is now estimated at $1,873,000; and I might mention that the estimated cost given in the survey

document in 1947 was $1,680,000, and the difference between that and the present estimate is entirely occasioned by increase in construction costs.

COOPERATION OF LOCAL INTERESTS

Mr. FORD. Has there been full cooperation on this project by local interests?

General CHORPENING. Local interests have been very anxious to have some work accomplished on this project. Now that we have received funds, we are entering into negotiations with local interests.

I understand that there were some differences of opinion as to where the alinement of the channel should go. If there have been others, I am not aware of it at this time.

Mr. FORD. Those problems would be resolved prior to the letting of any contract?

General CHORPENING. Absolutely; we do not make a contract until the local interests are satisfied and in agreement with what we propose to do.

Mr. FORD. When do you propose to let the contract?

Mr. BOUSQUET. In June of 1952.

General CHORPENING. In that part of the country it is very difficult to do construction work of this type in the winter season.

BUREAU OF THE BUDGET RECOMMENDATIONS

Mr. FORD. This project was not recommended by the budget in 1952; was it?

General CHORPENING. No, sir.

Mr. KERR. The construction phase is always one of the most serious problems that you have to meet in building these projects, is it not?

General CHORPENING. Yes; and may I add another thing, that the local interests must provide the rights-of-way.

Mr. KERR. That is another problem.

General CHORPENING. That problem, and getting an alinement that suits everybody in the local community. Somebody's land must be taken.

CAPE GIRARDEAU AND VICINITY, MISSOURI

Mr. RABAUT. We will take up next the project, Cape Girardeau and vicinity, Missouri.

This is a project with a total estimated Federal cost of $5,397,000; the allotments to date have been $100,000. The amount appropriated in fiscal year 1952 was $100,000 for planning, and the tentative allocation for fiscal 1953 is $1 million.

Will you give us a general statement about this project, General Chorpening?

DESCRIPTION OF PROJECT

General CHORPENING. This is a local flood-protection project for the protection of the town of Cape Girardeau, which is on the right bank of the Mississippi River. It was authorized in 1950.

During the floods of last year, when an extremely high stage was experienced on the Mississippi River, a great amount of damage was

done in this city. I was there personally during the flood and saw several feet of water inundate a great many of the business establishments of the city.

There have been frequent floods during recent years—1943, 1944, 1947, and 1951, of course. The total damage caused by these floods is approximately $3 million.

There are a number of industries in this city which will be protected, including a large shoe factory, which I was advised had a contract with the Government for making shoes, an ice plant, foundry, lumber mill, meat-packing plant, surgical-dressing factory, and two gasoline and fuel-storage and distributing plants. Also within the area is located a large cement plant.

The project has a benefit-to-cost ratio of 1.3 to 1. Funds requested for 1953 will initiate construction to be utilized in levee embankment, alteration of flood walls, retaining walls and pumping plant. Those are the major items.

DEFINITE PROJECT REPORT

Mr. RABAUT. What is the status of the definite project report?

General CHORPENING. We had no planning funds on this project prior to the recent certification by the President so the definite project studies are only now getting under way, and it is expected that we would complete the studies during the coming summer or fall.

BENEFITS FROM PROJECT

Mr. RABAUT. What are the specific benefits to be derived from the project?

General CHORPENING. I believe I covered that generally in my previous statement: the average annual benefits we figure to be $308,000 on flood control.

Mr. RABAUT. Will those benefits all accrue to the city of Cape Girardeau?

General CHORPENING. Yes, sir.

FEDERAL CHARGE FOR LOCAL IMPROVEMENTS

Mr. RABAUT. How are highway, road, sewer alterations, and street adjustments properly a Federal and not a local charge?

General CHORPENING. That was covered in the survey document as presented to the Congress, and the only relocation at the Federal expense is in connection with one railroad bridge across the proposed diversion channel for Sloan Creek and consists of the raising of the railroad approach for two levees across the existing bridge.

Mr. RABAUT. Is it customary for the Federal Government to pay such bills?

General CHORPENING. The general rule is that for street alterations and highway alterations to be paid for by local interests. I am not familiar with the background as to why they were set out as a Federal expenditure in this instance.

Mr. RABAUT. Will you look into that and supply the information for the record?

General CHORPENING. Yes.

(The information requested follows:)

The general policy determining the degree of Federal and non-Federal responsibility in providing highway crossings over levees, ramps, sewer alterations, etc., is guided by determination of what works are part of the levee construction and what are additional appurtenances not needed for the effective functioning of the levee. The division of costs in the Cape Girardeau, Mo., project is based upon the Federal Government providing at the least expense the necessary highway crossings, ramps, etc., which are required for the effective functioning of the project. With respect to sewer alterations, the city of Cape Girardeau has plans for construction of a major storm sewer which would collect the storm runoff from certan existing sewered and unsewered areas. The lower end of the proposed sewer would be modified to permit discharge under pressure and, since this will reduce the size and cost of the required pumping plant, the cost of the sewer modification is a proper Federal charge since it results in an over-all saving.

DEFENSE SIGNIFICANCE

Mr. RABAUT. Is there any defense significance to the project outside of the factors you talked about, the shoe factory and others?

General CHORPENING. Other than the ones I previously stated, there is the over-all impact of flood damage on the normal life of the community.

Mr. RABAUT. What is the amount of the local contribution?

General CHORPENING. The estimated cost of the right-of-way required will be $80,000; $400,000 will be required for damages resulting from construction work, such as moving an existing building, relocation of telephone lines, power-transmission lines, and other public utilities. The total local cost is $480,000.

PLANNING

Mr. RABAUT. What is the completion status of your planning?

General CHORPENING. Since we received funds only early this month, there has been little done up to this time.

Mr. RABAUT. What is the population of the town of Cape Girardeau?

General CHORPENING. The population is 21,578, from the latest census figures.

Mr. RABAUT. Can you tell us what is the status of the funds appropriated to date, at the present time?

General CHORPENING. In accordance with the provisions of the conference report, wherein all projects to have planning funds allocated must be certified by the President, our office made recommendations through the Bureau of the Budget for those projects on which planning funds were to be allocated in fiscal year 1952.

On the 5th of January 1952 we were advised that the Cape Girardeau project had been certified by the President and that $100,000 would be allocated for that purpose.

Mr. RABAUT. Then you are just in receipt of the money now?

General CHORPENING. Yes, sir.

SELECTION OF PROJECT

Mr. DAVIS. Was the selection of this particular project in accordance with the criteria which were set up by the Corps of Engineers?

General CHORPENING. No. The criteria were set up by the Bureau of the Budget and under those criteria we made the recommendations

to the Bureau of the Budget. The criteria that were given to the Bureau of the Budget went back to the criteria established in the conference report for fiscal year 1951. You are asking about the requests for planning money?

Mr. DAVIS. Yes.

General CHORPENING. My answer is correct, that the criteria for the certification were laid out and given to the Bureau of the Budget by the terms of the conference report.

Mr. DAVIS. When they certified this to you as being in accordance with the defense program, did that certificate contain anything other than the statement that this is in keeping with the defense program?

General CHORPENING. I think that was the statement. We have the copy of the letter that we received from the Bureau of the Budget, and if you would like to have that presented for the information of the committee——

Mr. DAVIS. The only significance to it would be as to whether or not the Bureau did explain why they certified this particular project for local protection ahead of many other similar projects throughout the country.

General CHORPENING. The letter gave a list of the projects that the President had certified for planning funds.

CERTIFICATION OF OTHER PROJECTS

Mr. KERR. Were there other projects certified by the President at the same time as this one?

General CHORPENING. Yes. All the projects for which the President was certifying funds that we might utilize at this time in accordance with the provisions of the conference report.

Mr. DAVIS. Was this project simply included among a list of several other projects requesting local flood protection, or local construction funds?

General CHORPENING. It was included in our request for funds to the Budget.

Mr. DAVIS. Were there more new projects requested than this one at Cape Girardeau and the one at Topeka?

General CHORPENING. There were a number of local flood protection projects for which the Chief of Engineers requested funds, some within ceiling, some over ceiling.

METHOD OF SELECTING PROJECTS

Mr. DAVIS. Did you assign any priority to these new projects at the time you submitted them to the Bureau of the Budget?

General CHORPENING. No, sir.

Mr. DAVIS. So far as you were concerned they were all on an equal basis as to the request for funds?

General CHORPENING. That is correct: the only difference being that some were requested within ceiling, and some over ceiling.

Mr. DAVIS. In view of the lack of any explanation from the certificate which you received, you are not in position to judge why these two particular projects were picked out in preference to the others you requested?

General CHORPENING. No, sir. We presented our budget before the Bureau of the Budget. After our hearings were completed, we were not further interviewed as to what action was being taken or was being proposed.

Mr. DAVIS. We have nothing in the record so far to show just what the requests were for the local flood-protection project. Would you insert in the record at this point the list of the new construction projects that you requested of the budget?

General CHORPENING. Both within and over ceiling?

Mr. DAVIS. Yes.

Mr. RABAUT. You want that to be included under the discussion of this particular project?

Mr. DAVIS. Yes, I think it pertinent to this particular project.

Mr. RABAUT. Very well.

(The information requested follows:)

Project:[1]	*Benefit-cost ratio to 1*
Skagway River and Harbor, Alaska	0.54
Tucson, Ariz	1.41
Kawainui Swamp, Hawaii	2.16
Columbia River (local protection), Idaho, Oreg., Wash., Mont., Wyo., Nev., and Utah (Grande Ronde Valley, Oreg.)	2.10
New Harmony Bridge, Indiana and Illinois	([2])
*Topeka, Kans	1.16
Pineville, Ky	1.50
*Cape Girardeau, Mo	1.34
Aitkin, Minn	1.02
Havre, Mont	1.40
Lower Columbia River (bank protection), Oreg. and Wash	2.10
Swoyerville and Forty-Fort, Pa	2.70
Rutland, Vt	1.10
Wheeling-Benwood, W. Va	1.31

[1] Projects shown with * were within ceiling; all others overceiling.
[2] Not available.

Mr. DAVIS. At the time of the submission of that table, will you include the benefit-cost ratio of each of those projects?

General CHORPENING. Yes, sir.

CONSTRUCTION

Mr. DAVIS. On this particular project there are only two features involving actual construction: One of them the commencement of the levee embankment, and the other the commencement of the flood wall or retaining wall. Will the portions to be constructed under this request be of any protection value by themselves?

General CHORPENING. It will provide some degree of protection for the reaches that it will cover prior to the entire completion of the work. It will not be entirely ineffective work.

ENGINEERING AND DESIGN

Mr. FORD. In the justifications you are requesting $50,000 to proceed with the engineering and designing. Will that amount of money provide for the completion of the definite project report?

General CHORPENING. Yes, sir. We should be able to complete the definite project report with the $100,000 that we have now allocated for it.

ADDITIONAL FUNDS

Mr. FORD. Last year the Bureau of the Budget requested only $75,000 and apparently an additional $25,000 was approved subsequently by the budget. Could you explain how that was brought about?

General CHORPENING. In our request made to the Bureau of the Budget for certification we asked for $100,000, which would have enabled us, we felt, to get along further with the planning on this project. The $75,000 was included for planning, as I recall, in fiscal 1952.

Mr. FORD. From where did the extra money come?

General CHORPENING. Under provisions of the conference report all allocations previously made were revoked and all planning funds were then pulled together. Any reallocations had to be certified by the President.

Mr. FORD. And that $25,000 came from the unearmarking of previously allocated planning funds?

General CHORPENING. Yes, sir.

Mr. FORD. There is no outstanding construction contract on this project at all?

General CHORPENING. No; we have only planning funds and received those funds only a few weeks ago.

Mr. FORD. Has there been any revision of the cost estimate, General Chorpening, on this project?

General CHORPENING. No, sir. There is no change in the cost estimate as we had it last year. There has been an increase in the estimate since authorization which was on the 1949 base, but the increase is only that attributable to the increase in over-all prices since that time.

Mr. FORD. What was the original cost estimate?

General CHORPENING. $4,756,000.

PERRY COUNTY DRAINAGE AND LEVEE DISTRICTS NOS. 1, 2, AND 3, MISSOURI

Mr. RABAUT. We will take up the item for the Perry County drainage and levee districts, Nos. 1, 2, and 3, Missouri.

This is a project with a total estimated Federal cost of $7,262,000. There has been allotted to date, $2,949,400 and the amount appropriated for fiscal year 1952 was $1 million, and the tentative allocation for the fiscal year 1953 is $1 million.

This project, as of the close of the fiscal year 1952, will be 41 percent complete, and the rate, with the money for 1953, will go forward to 54 percent.

General Chorpening, please give us an explanation of the use of the funds given you in 1952 and what you intend to do with the money requested and the sums you have on hand, for 1953.

PROGRESS OF WORK

General CHORPENING. The funds allocated in fiscal 1952, $1 million, are to be applied against construction of levee embankments, $933,000, and the remaining to engineering and design.

With the funds requested for the fiscal year 1953 we propose to continue construction of levee embankments and to do some work on

the gravity drainage structure, surfacing of access roads on levees, construction of two highway closure structures, as well as to continue engineering and design for the remaining portions of the project.

This is another local flood protection project similar to those that were discussed several days ago on the left bank of the Mississippi River. This is on the right bank.

LEVEES AT FLOOD STAGE

During the flood last year it took a terrific fight to hold these levees, due to the fact that they have never been brought up to the authorized grade and section, but have been built only to interim grade and section. It was thought at one time that we would never be able to hold these levees, but as a result of the terrific battle made by local interests, we did succeed.

Mr. RABAUT. The money you spent last year was actually on levees and embankments.

General CHORPENING. That is correct.

Mr. RABAUT. A portion of it was for engineering and designs.

General CHORPENING. Yes, sir.

DESCRIPTION OF WORK TO BE DONE

Mr. RABAUT. With the money you are requesting you are going to do levee embankment work, gravity drainage structures, and access roads, surfacing, and closure structures, and engineering in about the same proportion you did last year?

General CHORPENING. Yes, sir.

Mr. DAVIS. Is there any other explanation for the 10 percent increase in cost, other than the increase in construction costs since that time?

General CHORPENING. There is no increase——

Mr. DAVIS. Since fiscal year 1951 you have an increase of 10 percent. That is the only explanation for it?

General CHORPENING. The Engineering Cost Record Index would account for that increase, yes.

URGENCY OF CONSTRUCTION

Mr. FORD. According to the justifications, on page 284, there is considerable emphasis put on the urgency of construction of this project. As I recall the testimony before this subcommittee last year, the project was not included in the budget. What are the different circumstances now that bring about the urgency of this project?

General CHORPENING. It is similar to the other projects along the Mississippi River, that were discussed several days ago in that they were in the request to the Budget of the Budget in 1952, but were not allowed. This one was in our request to the Bureau of the Budget in 1952 and not allowed. It was later asked for in view of the very serious flood condition experienced in the 1951 flood.

Mr. FORD. The budget as originally presented for 1952 did not include this item?

General CHORPENING. That is correct.

BENEFIT TO COST RATIO

Mr. FORD. Has there been any revision in the benefit to cost ratio? It is now stated to be 1.3 to 1.

General CHORPENING. I will have to check that. I do not have the information readily available as to what the benefit-cost ratio was last year. The information requested is as follows:

The benefit to cost ratio of 1.3 to 1 for this year is the same as for the last year.

CONTINUING CONTRACT

Mr. FORD. Is the $771,000 for levee embankment in fiscal year 1953 for a continuing contract?

Mr. BOUSQUET. That will be applied to a continuing contract to be awarded, that contract has not actually been awarded.

Mr. FORD. When is that continuing contract to be awarded?

Mr. BOUSQUET. It would be awarded in May and June—there are two separate parts.

Mr. FORD. Are they integrated contracts?

General CHORPENING. Items 1 (a) and 4 (b)—I think we will have to furnish that answer for the record, Mr. Ford, because the information here is not sufficiently accurate to make a statement.

(The information requested follows:)

These items are separate. Item 1A is embankment closure structure to upper flank levee.

Item 4B is embankment and gravity structure on the lower river-front levee.

Items will be awarded under separate contracts inasmuch as they are several miles apart.

PREVIOUS APPROPRIATION

Mr. FORD. When was the last previous appropriation, prior to the fiscal year 1953, for this project?

General CHORPENING. I believe the last previous appropriation was fiscal year 1951.

Mr. FORD. Were the funds for fiscal year 1952 for the continuation of an existing contract?

Mr. BOUSQUET. No; that was to initiate a new contract.

GAVINS POINT RESERVOIR, NEBR. AND S. DAK.

Mr. RABAUT. Next is Gavins Point Reservoir, Nebr. and S. Dak., which is a project with a total estimated Federal cost of $60,055,000. The allotments to date have been $2,668,800, and the amount appropriated in fiscal year 1952 was $2 million. The tentative allocation for fiscal year 1953 is $13 million.

This project was authorized under the 1944 Flood-Control Act.

General Chorpening, we are going to ask you to give us a statement concerning this project, justifying the request for $13 million, and giving us an explanation as to what has been done with the $2 million in the 1952 appropriation.

DESCRIPTION OF PROJECT

General CHORPENING. Gavins Point Reservoir is a reservoir immediately below the Fort Randall Dam in South Dakota and is actually a reregulating dam for that structure.

By means of this dam we firm up the power generated by Fort Randall and reregulate the stream below.

The funds appropriated in 1952, $2 million, we propose to utilize for preliminary construction, access roads, and other items of earthwork, stage 1, on the dam proper, $700,000; to initiate some work which will be primarily designs for the turbines, governors, and generators, and $200,000 for land acquisition for the damsite, and $500,000 to go into engineering and designs for the structures.

The funds asked for in 1953, $13 million, will be utilized primarily in stage II earthwork on the dam, $1,500,000; to the spillway, $3,900,000; to the powerhouse structure, $2,800,000, and small amounts for continuing the procurements that would be necessary for the generators, intake gates, guides, transformers, reservoir work, and land acquisition, as well as continuing the engineering and designs on the project.

Since this project as well as others were fully described to the committee last year, I do not think a detailed description is necessary.

INCREASE IN ESTIMATED COSTS

Mr. RABAUT. What is the reason for the 30 percent increase in the estimated cost since 1952?

General CHORPENING. I have a statement of about four and a half pages on that which I do not think necessary to read in its entirety, but I will be glad to do so if the committee wishes. [Reading:]

The estimated cost for the construction of the Gavins Point project is $15,155,000 more than the estimate submitted last year. The revision in the estimate is a result of concerted study both in the field and within the Office, Chief of Engineers, where it has received my close personal attention.

As you know, this project is extremely important. Not only is it justified on its own by virtue of power production and flood control, but it is the means by which the full power benefits are achieved from the Fort Randall project. Annual benefits which will be achieved directly and at Fort Randall as a result of this project total more than $8,000,000. These benefits may be compared with annual costs of this project of $3,170,000.

The last estimate submitted to your committee was made from preliminary studies completed in March 1949. At that time, only limited field knowledge of the project was available. These preliminary studies were prepared for the purpose of determining by comparison, the most economical height of the dam, size of the reservoir, and an approximation of the proper power installation. While not a result of detailed information on all project features, these preliminary studies were based on the best information available at the time. The planning estimate for fiscal year 1951 was $42,725,000. A project was contemplated at that time substantially the same as that on which construction will start this spring. The dam height, approximate reservoir size, and location have not been changed materially, but these early studies contemplated an ultimate power installation of from 80,000 to 100,000 kilowatts. Power facilities costs were tentatively computed at that time for 81,000 kilowatts.

Studies were continued through 1949 and 1950, and intensified in 1951. After further preliminary studies in cooperation with the Federal Power Commission and the Department of Interior, it was determined that the proper power installation, to mose effectively use the water available, would be 100,000 kilowatts.

When the estimate for fiscal year 1952 was prepared in May 1950, further studies of project detailes had not advanced sufficiently to permit an adequate

reevaluation of costs. No further studies had been submitted to the Office, Chief of Engineers, for review and comment. The approved estimate for fiscal year 1952 was computed by adding 5 percent to cover expected increased costs for labor and materials as indicated by a corresponding rise in the Engineering News-Record index for the period March 1949 to May 1950. The approved estimate last submitted to your committee was $44,900,000.

During the last year, intensive study in the Omaha district office continued under the supervision of the Missouri River division engineer. Advanced studies of project details submitted to the division engineer for review and comment were returned for further study. Later studies were submitted to the Office, Chief of Engineers, early in 1951 for a detailed engineering review; these were returned for still more field study particularly as to the design of the spillway and the lay-out of project features. Conferences in the field and in this office resulted late in 1951 in engineering decisions which have formed a firm basis for detailed design and construction. The result of these intensive studies is a sound plan on which we can proceed in construction with confidence. Earthwork on the dam and the construction of road access to the site will be started early this spring.

Reexamination of the estimate made in March 1949, in light of the present estimate based on detailed knowledge of the project, is interesting. As I have stated before, this early estimate was based on the best information available at the time, but not being a result of detailed studies and made for comparative purposes of economic evaluation, it was necessarily less accurate than the present estimate. Detailed foundation knowledge was not available, and the exact power installation had not then been determined.

As a result of the studies completed recently, it has been shown that the preliminary estimate should have been somewhat higher.

The early estimate of the cost of power facilities was based on approximate curves of the average cost per installed kw of power facilities. Detailed knowledge of the project indicates the costs assumed from the curves were too low, and that the estimate for power facilities should have been about $2½ million, or 11 percent, higher.

Change in the power installation from 81,000 to 100,000 kilowatts results in an increase in the cost of power facilities of $5 million (plus 24 percent).

Spillway and embankment design changes as a result of more detailed knowledge of structural, foundation, and hydraulic requirements has shown the estimate for these portions should have been increased by about $1 million, or 6 percent.

Other changes, including estimated increases in land and relocation costs, determined as a result of more detailed analysis, and a proportional increase in estimated design costs would increase the original estimate by about $1½ million, or 3½ percent.

Making allowance for these items in which changes were found necessary from greater knowledge of the project, the preliminary estimate of 1949 would be increased by $10 million, to $52,725,000.

Between the spring of 1949 and July 1951, construction costs had risen almost 15 percent, as shown by the ENR index. Increasing the corrected preliminary estimate by this percentage to make an allowance for expected increased costs would raise the estimated cost to over $60 million. This would correspond with the present approved estimate of $60,055,000.

I wish to assure the committee that this estimate has received most careful attention. The information on which this estimate is based is now the best obtainable. This estimate has been discussed in detail, with the Chief of Engineers, and I have personally approved the present estimate. I am confident it represents adequately the costs which we will encounter in construction of this project. I must, however, state that as in all other projects under construction, if costs of labor and materials rise, so will the cost of construction. Other problems not presently foreseeable may be encountered. Both favorable and unfavorable bids will affect the final cost. However, I wish to emphasize that this estimate is as sound as our present best judgment will permit.

This project is fully justified, as I have stated before, on the basis of the benefits produced at the project for power and flood control. The benefit to cost ratio is 1.1 for this project acting alone. Benefits for power at the site total $3,140,000, flood control $350,000, and the annual charges will amount to $3,170,000. In addition full power benefits adding $5,000,000 annually are achieved at Fort Randall from operation of Gavins Point.

Since Gavins Point is in reality a reregulating reservoir for the Fort Randall project, it is desirable to consider these two projects as one unit. Proper operation of Fort Randall for the maximum benefits is only possible through the addition of Gavins Point. Therefore the benefits and costs of the two should be considered together.

The combined Fort Randall-Gavins Point annual benefits are $18,348,000, and annual costs are $12,595,000, giving a benefit to cost ratio of 1.46 to 1.

It is readily apparent that the combined Fort Randall-Gavins Point projects are well justified.

BENEFIT-COST RATIO

Mr. RABAUT. With the increased cost, 30 percent over the estimated cost since 1952, how do you explain the fact the benefit-cost ratio is still the same as last year, 1.1 to 1, on this particular project?

General CHORPENING. By the power benefits that are obtainable from the project which are commensurate with the increase in the cost.

Mr. RABAUT. It remains just the same with the power benefits?

General CHORPENING. Yes, sir.

SPECIFIC BENEFITS

Mr. RABAUT. What are the specific benefits to be derived from this project?

General CHORPENING. A small amount of flood control, $350,000; electric power, $3,070,000; or a total of $3,420,000.

Mr. RABAUT. What are the specific costs?

General CHORPENING. The average annual charges are estimated at $3,170,000.

FLOOD CONTROL BENEFITS

Mr. RABAUT. Where and how will the flood-control benefits occur?

General CHORPENING. They will occur downstream. The reservoir storage will provide the necessary control of flood flow from the intervening area below Fort Randall and materially aid in the reduction of the flood stage in the downstream area from Gavins Point. There is not a large share of the benefits from this reservoir that is chargeable to flood control.

Mr. RABAUT. What other projects further downstream are there to take care of floods?

General CHORPENING. This is the last dam in the series on the Missouri River. Below this point we have previously discussed the bank stabilization work, which we propose to do on the Missouri River, and after that is completed, the agricultural levees. The grades of those levees will be established in accordance with the flood-control storage that is available upstream.

NAVIGATION BENEFITS

Mr. RABAUT. What navigation do you propose to protect by this regulation of the discharge of water at the dam?

General CHORPENING. The water will be discharged from Gavins Point at a smooth even rate, which will of course better enable navi-

gation to move up and down the river, otherwise we would have surges in the river.

Mr. RABAUT. What navigation is there?

General CHORPENING. There is now an authorized navigation project to the vicinity of Sioux City, Iowa. At the present time it is not the head of navigation—the head of navigation is really at Omaha; it is a little above that point. It is expected, however, in the future that navigation will be on the river all the way up to Sioux City.

Mr. RABAUT. This has been suggested for future navigation?

General CHORPENING. Yes; and some aid to present navigation.

Mr. RABAUT. What is the present navigation, what does that amount to?

General CHORPENING. We can give the amounts of navigation that have been on the river in recent years. That same question was asked earlier.

Mr. RABAUT. Will you put a statement in the record as to what navigation you propose to protect by this project, as well as the general navigation expected in the future?

General CHORPENING. Yes.

(The information requested follows:)

The domestic water-borne commerce consisting of the following principal classes of commodities; vegetable food products, textile fibers, wood and paper, nonmetallic minerals, metals and mnufactures, machinery and vehicles, chemicals, and Government materials was carried by water from the mouth of the Missouri River for the calendar years 1946–50 as follows:

Year	Commercial	Government	Total [1]
KANSAS CITY TO MOUTH OF MISSOURI RIVER			
1946	527, 534	223, 506	751, 040
1947	325, 635	295, 537	621, 172
1948	251, 987	545, 227	797, 214
1949	348, 764	568, 644	917, 408
1950	317, 544	445, 589	763, 133
Total	1, 771, 464	2, 078, 503	3, 849, 967
KANSAS CITY TO SIOUX CITY, IOWA			
1946	57, 662	218, 545	276, 207
1947	168, 779	208, 504	377, 283
1948	278, 962	531, 545	810, 507
1949	240, 073	559, 632	799, 705
1950	181, 623	687, 591	869, 214
Total	927, 099	2, 205, 817	3, 132, 916

[1] Tons of 2,000 pounds.

Commerce has steadily increased since the end of World War II. Steel movement has become an important item of barge traffic. Twelve large steel firms in Kansas City and Omaha will be shipping steel from plants on the Ohio and Illinois Rivers, and the movement of scrap steel from Kansas City to steel plants in the East will no doubt develop this season. Also within the Kansas City area plans are being prepared by numerous other shippers, especially those interested in grain and steel movement.

DEFENSE INDUSTRIES

Mr. RABAUT. What defense industries are in the area now that need particularly firm power?

General CHORPENING. In this immediate vicinity there are no defense industries, but the power produced at this project will be utilized in connection with the over-all power net in that territory. This will be connected with the power system in the surrounding States, where we are advised that there is real need for power at this time.

Mr. RABAUT. In the surrounding States are there defense industries where this power will be helpful?

General CHORPENING. I think generally that territory is an agricultural region with many food processing plants.

Mr. RABAUT. Very well, food processing. Now, what was the original design of this dam as it appeared in the survey document at the time of its authorization?

General CHORPENING. A much smaller dam was visualized—as I recall it, 25 feet; and at that time it was planned on only an installation of 20,000 kilowatts.

Mr. RABAUT. How do you consider you have authority to go beyond this?

General CHORPENING. On any of our projects we are required to coordinate closely with the Federal Power Commission on the amount of power that can practically and properly be installed, and in view of advice from them that 100,000 kilowatts can and should be produsced and under our over-all authority for modification. We have made the changes indicated.

Mr. RABAUT. Has this point ever been tested?

General CHORPENING. I do not think so, no. We have made modifications similar to this in many of the projects.

(Off-record discussion.)

INCREASE IN ESTIMATED COSTS

Mr. RABAUT. As a result of the discussions we have had off the record, will you file for the record a statement showing the increase in estimated costs attributable to the modifications, and such other elements as affect the increase in cost?

General CHORPENING. Yes, sir.

(The information requested follows:)

The original authorization estimate for the Gavins Point Reservoir was $15,000,000 and the estimate presented in connection with the 1952 budget estimate amounted to $44,900,000. The present estimate of cost is $60,055,000 and the increase from $44,900,000 to the present estimate has been explained on page 410. The increase from the original estimate of $15,000,000 to the $44,900,000 was in stages as follows:

The estimate of $15,000,000 was based on 1939–40 price levels. A thorough project analysis was prepared early in 1949 at which time the original plan was estimated to cost $23,300,000 based on prices prevailing as of this period. In connection with studies made at this time a revised plan was developed which called for a change in the height of the dam from a 25-foot head to a 45-foot head. An evaluation of the two plans showing the changes in project features and costs as determined from these studies is presented below:

Feature		25-foot head dam	45-foot head dam
1. Dam and reservoir:			
(a) Miles from Yankton		8	4
(b) Height of dam (maximum) river bed	feet	55	72
(c) Normal pool elevation		1,195	1,210
(d) Length of reservoir	miles	15	30
(e) Reservoir area	acres	13,000	32,000
(f) Mean depth of reservoir	feet	10	16
(g) Storage capacity	acre-feet	130,000	525,000
2. Power installation:			
(a) Normal head	feet	25	45
(b) Unit capacity	kilowatts	10,000	27,000
(c) Initial installation	units	2	1
(d) Initial installation	kilowatts	20,000	27,000
(e) Ultimate installation	units	2	3 or 4
(f) Ultimate installation	kilowatts	20,000	80,000–100,000
(g) Mean annual power output	kilowatt-hours	160,000,000	570,000,000
3. Costs:			
(a) Land acquisition		$800,000	$1,500,000
(b) Relocations		40,000	80,000
(c) Dam with initial power installation		22,460,000	33,145,000
(d) Total cost with initial power plant		23,300,000	34,725,000
(e) Added cost of future plant additions		0	8,000,000
(f) Ultimate total cost		23,300,000	42,725,000

The above data was presented in connection with fiscal year 1950 budget. The increase from the estimate of $42,725,000 shown above to the $44,900,000 presented in connection with the fiscal year 1952 budget is accounted for through increases in the construction cost index.

FOUNDATION CONDITIONS

Mr. RABAUT. What foundation conditions have you encountered on this project, and what design changes have they occasioned?

General CHORPENING. We will supply that information for the record.

(The information requested follows:)

Refinements in design were based on more detailed knowledge of foundation conditions resulting in moving structures further into the abutment to obtain better foundation conditions and special provisions such as large foundation keys for the powerhouse to prevent sliding due to the nature of the foundation material.

FEDERAL POWER COMMISSION'S SURVEY

Mr. RABAUT. Do you have any official information from the Federal Power Commission as to when that power will actually be needed?

Colonel PAULES. We have, as a result of a survey from the Federal Power Commission and the Department of Interior, backed up within the last year by studies made by the DEPA, information that available power would only be adequate until 1954. Market studies made by the Federal Power Commission indicated an immediate need for all of the additional power that can be developed in that region to such an extent that the power units in the Missouri River should be installed as soon as possible.

One of the items listed in these studies as requiring additional power was the REA cooperatives, which would require more power than is produced at Fort Randall. The additional power from Fort Ran-

dall and at Gavins Point would have long-range value for national defense, and would serve to increase the industrial potential in the area.

According to the DEPA report, this district, that is, the north central area, will have a shortage toward the end of 1954. In the west north central area, extending over to Wyoming and Montana, a slight surplus is indicated to 1954. Fort Randall and Gavins Point are right over here on the boundary line of the north central region—that area is short of power now, on up through here [indicating on map] including the area through Iowa, the States of Illinois, Wisconsin, and Minnesota.

Mr. RABAUT. Will you tell us in more definite figures and percentages what the demands will be in the area.

Colonel PAULES. Yes, sir.

(The information requested is as follows:)

The Fort Randall-Gavins Point, and Oahe power market area centers in South Dakota, and includes a major portion of that State and portions of Minnesota, Iowa, and Nebraska, and according to information supplied by the Bureau of Reclamation.

The Bureau of Reclamation is the Department of Interior agency responsible for marketing of power from Corps of Engineers projects in this area. They report that power requirements in this market area have shown a sharp growth from 1946 to 1950. This growth has been influenced by such factors as rural electrification, a high degree of farm prosperity, and the promise of low-cost power. It is estimated that during the next two decades the energy requirements for this market area will increase from 1.7 billion killowatt-hours in 1950 to 4.2 billion in 1960, and to 6.9 billion by 1970.

Agriculture is the principal source of income in the area. Mining has long been important in the Black Hills. With the power soon to be available from Fort Randall, development of a large deposit of manganese near Chemberlin, S. Dak., appears possible. Contiguous to the area are such large centers of population and industry as Omaha and Sioux City.

Federal power developments under construction in this area are: Fort Randall with 320,000 kilowatts, which will first produce power late in 1953; Gavins Point on which construction was started this spring and which will make available 100,000 kiloatts by the spring of 1957; and Oahe which will have an installed capacity of 425,000 kilowatts, with first power available in 1959. The present power supply comes almost entirely from fuel-burning plants, many of which are relatively inefficient. Power available from these projects will serve the needs of the immediate area and also by interconnection could relieve power shortages in adjoining areas by means of displacement.

The Bureau of Reclamation has urged immediate construction of Gavins Point to meet applications already received for power in excess of the estimated amounts available when Fort Randall and Garrison start operation.

The Bureau of Reclamation recently stated, "It is expected that the Federal plants will be called on to supply the entire expected load growth in this area as well as a considerable portion of the power now supplied by the least efficient of the present fuel-burning plants.

"It is estimated that in 1953, when the first unit at Fort Randall is scheduled for completion, the energy requirements for the area will increase to 2.4 billion killowatt-hours annually, an increase of 700 million kilowatt-hours over the 1950 requirement. By 1955 a further increase in load requirements of about 600 million kilowatt-hours annually is expected for a total area requirement of 3 billion kilowatt-hours.

"By 1957, at which time Gavins Point is expected to be completed, the total firm energy requirements of the area is expected to increase to 3.5 billion kilowatt-hours annually. Thus, with no retirement of existing fuel-burning plants, it is expected that the energy requirements of the area may be nearly met by 1957 if the present schedule for completion of the Fort Randall and Gavins Point power plants is carried out.

"By the time the first units of the Oahe power plant become available for generation under the present schedule of construction, it is estimated that the area energy requirements will be increased by an additional 600 to 700 million kilowatt-hours annually, which will require additional energy to be produced by Oahe."

POWER

Mr. RABAUT. To what extent have you considered the loss of water from upstream reservoirs due to irrigation in computing the power benefits?

General CHORPENING. That has been taken into account in connection with figuring the amount of water available for the production of power.

Mr. RABAUT. You say it has been taken into account; to what extent in making your plans, 1 percent, 9 percent, 12 percent, or what?

Colonel PAULES. Our estimates are based on the ultimate depletion for irregation.

Mr. RABAUT. What are the estimated flood control benefits of the entire Missouri Basin project?

General CHORPENING. I do not believe we have those figures immediately available, but we can supply them.

Mr. FORD. Last year a chart was put in along that line, which might be revised and brought up to date.

Can you bring that up to date?

General CHORPENING. Yes, sir.

(The information requested follows:)

BENEFITS, CHARGES, AND ECONOMIC RATIOS MAIN-STEM MISSOURI RIVER RESERVOIR PROJECTS

The authorized plan for the Missouri River Basin is a comprehensive, coordinated plan for developing the water resources of that basin, consisting of approximately 100 subordinate parts. The main-stem projects will be operated as a group to produce the greatest benefits attainable from such a system operation. An analysis of each project individually results in benefit figures which do not reflect the comprehensive effects since these projects will be operated as a coordinated system and not separately.

	Ultimate power installation	Power	Flood control	Water conservation	Total	Annual charge	Ratio benefit to cost
	Kilowatts						
Fort Peck	165,000	$5,662,100	$1,930,000	$3,750,000	$11,342,100	$7,690,000	1.5
Garrison	400,000	11,600,000	2,380,000	4,550,000	18,530,000	15,300,000	1.21
Oahe	425,000	13,685,000	1,930,000	4,790,000	20,405,000	15,222,000	1.34
Big Bend	120,000	5,200,000	----------	----------	5,200,000	2,600,000	2.0
Combined Fort Randall-Gavins Point	420,000	13,354,000	1,712,000	3,212,000	18,278,000	12,595,000	1.46
(Fort Randall) [1]	(320,000)	(10,284,000)	(1,362,000)	(3,212,000)	(14,858,000)	(9,425,000)	(1.58)
(Gavins Point) [1]	(100,000)	(3,070,000)	(350,000)	----------	(3,420,000)	(3,170,000)	(1.08)
Total for main stem projects	1,530,000	49,501,100	7,952,000	16,302,000	73,755,100	53,407,000	1.38

[1] The Gavins Point Reservoir will operate as an integral unit with the Fort Randall project for combined benefits to navigation and flood control as well as power. In this respect Gavins Point Reservoir will function as an afterbay to Fort Randall in providing relatively uniform releases to avoid adverse downstream effects from variation in releases which would occur otherwise. Although data is shown for these two projects individually, it should be noted that the amount of the benefits produced at Fort Randall can be obtained only if Gavins Point is completed and operated with Fort Randall.

FLOODWATER STORAGE AT GAVINS POINT

Mr. RABAUT. What percentage of the floodwater storage for the entire Missouri Valley Basin system will Gavins Point provide?

General CHORPENING. A very small percentage.

Mr. RABAUT. How much?

General CHORPENING. 165,000 acre-feet.

Mr. RABAUT. In relation to a total of how many feet?

General CHORPENING. I will have to supply that percentage for the record.

(The information requested follows:)

Total storage for the basin attributable to flood control is 13,915,000 acre-feet. Gavins Point storage is 1.2 percent of that total.

TYPES OF CONSTRUCTION

Mr. RABAUT. If the primary need at Fort Randall is a regulation dam, have you considered another site than Gavins Point merely to provide such a dam, or have you considered Gavins Point without power, acting only as a regulating dam?

General CHORPENING. We have never considered Gavins Point, to my knowledge, since its authorization as other than a regulating dam with installed power.

I have no doubt, in connection with the original survey that thought was given to putting in just a dam as a regulating dam. However, there can be so much power generated there that it would be a waste of a natural resource to do it that way.

Mr. RABAUT. How would the deletion of the provision for power at Gavins Point affect its economic feasibility?

General CHORPENING. I would have to do some computing on that, Mr. Rabaut.

Mr. RABAUT. Will you do that, and supply the benefit-cost ratio without power?

General CHORPENING. Yes, sir.

(The information requested follows:)

Benefit-cost ratio of Gavins Point without power

Power facilities at Gavins Point are estimated to cost $30,267,000. If constructed without power facilities, the annual charges for the Gavins Point project would be about $1,600,000. Since $5,000,000 of the power benefits at Fort Randall are only possible through operation of Gavins Point as a reregulating reservoir, some share of this benefit can properly be credited to Gavins Point. With the estimated $350,000 annual flood control benefit from Gavins Point, plus an assignment of some share of the additional power benefits from Fort Randall, the benefit-cost ratio of Gavins Point would be over 1 to 1. Under this assumption the benefit-cost ratio of Fort Randall alone would be reduced, and the benefit-cost ratio of the combined Gavins Point-Fort Randall project reduced from 1.46 to about 1.37.

Gavins Point is planned to achieve the most effective use of the available water. Coordinated studies have evolved a project so designed as to location, height of dam, size of reservoir, and power installation to produce the greatest benefits at the least cost. If power installation were not included at Gavins Point, the loss would amount to 100,000 kilowatts of peaking power and an annual energy loss of 524,000,000 kilowatt-hours, with an annual value of $3,140,000. When compared with the annual costs of the power facilities, about $1,500,000, the incremental value of power at Gavins Point is seen to have a benefit-to-cost ratio of more than 2 to 1.

Loss of the power benefits from Gavins Point would be a waste of our water resources and would result in a loss to the area of needed low-cost power.

RELATIONSHIP OF THE VARIOUS DAMS

Mr. KERR. What relation does the Garrison Dam and the Fort Randall Dam and the Gavins Point Dam have to each other?

General CHORPENING. All of these dams on the Missouri River are worked out as a system, Judge Kerr, to solve flood control in one, and in another there will be primarily power, but altogether they are parts of a system, and all of the dams must be in place to get the greatest benefit. If one is left out, then some of the advantages of flood control, power, or irrigation, that go to make up the whole will be lost.

I did not prepare myself to give you a full detailed dissertation on these, because I knew that Colonel Potter did give you a very complete statement on them last year, which is in the record.

Mr. KERR. All of these dams—the Garrison Dam, the Fort Randall Dam and the Gavins Point Dam are dams which not only control floods, but are used for irrigation purposes and will be used for navigation purposes.

General CHORPENING. Irrigation, navigation, flood control, power, and other related benefits to the entire region.

Mr. KERR. In other words, they are connected with each other in a great project in the Midwest.

General CHORPENING. That is correct. Of course, I did not mention that the Fort Peck Dam, which is the first one constructed has been completed and judging from recent results has effected a very substantial flood-control benefit; we are also getting power out of it, and we are told that the remaining power potential, 80,000 kilowatts, should now be installed.

Mr. KERR. Here is another one of the projects that result in great resources and revenue to the Government.

General CHORPENING. That is correct. And you would have only a part of a comprehensive plan which otherwise cannot be achieved without completing the projects.

Mr. DAVIS. General, there is now no construction completed on the dam itself, and there will be none at the end of the fiscal year; is that correct?

General CHORPENING. We are proposing to utilize $700,000 of the funds made available in 1952 to initiate work on stage I of the earthwork, and we will proceed with land acquisition with funds available during this fiscal year.

STAGE I, EARTHWORK

Mr. DAVIS. What is involved in the stage I earthwork?

General CHORPENING. This map will give you a general idea of it.

We propose this spring to enter into a contract for stage I earthwork which will consist of excavation on the approach channels to the spillway and for the powerhouse and the placement of this material which is excavated into the right abutment of the embankment.

MODIFICATIONS

Mr. DAVIS. Getting back to the question of authorization of very important modifications, will you insert, General Chorpening, a statement of the legislative authorization upon which the Corps of Engineers has relied in making the large modifications which have changed this from an authorized $15 million project to an estimated $60 million project as of this date?

General CHORPENING. Yes, sir.

(The information requested is as follows:)

The Gavins Point Dam is a unit of the comprehensive plan for the control and use of waters of the Missouri River Basin authorized by section 9 (a) and (b) of the Flood Control Act of December 22, 1944.

Section 9 (a) and (b) of said act reads as follows:

"(a) The general comprehensive plans set forth in House Document 475 and Senate Document 191, Seventy-eighth Congress, second session, as revised and coordinated by Senate Document 247, Seventy-eighth Congress, second session, are hereby approved and the initial stages recommended are hereby authorized and shall be prosecuted by the War Department and the Department of the Interior as speedily as may be consistent with budgetary requirements.

"(b) The general comprehensive plan for flood control and other purposes in the Missouri River Basin approved by the act of June 28, 1938, as modified by subsequent acts, is hereby expanded to include the works referred to in paragraph (a) to be undertaken by the War Department; and said expanded plan shall be prosecuted under the direction of the Secretary of War and supervision of the Chief of Engineers."

HOUSE DOCUMENT 475, SEVENTY-EIGHTH CONGRESS

In House Document 475, Seventy-eighth Congress, the Chief of Engineers recommended modification of the general comprehensive plan for the Missouri River Basin substantially in accordance with the plans of the division engineer for flood control, irrigation, power development, navigation, and other purposes, with such modifications thereof and changes therein as the Secretary of War and the Chief of Engineers may from time to time find advisable, at an estimated cost to the United States of $481,600,000 for additional works.

The plans of the division engineer, referred to by the Chief of Engineers, include the Gavins Point Dam, with approximate gross storage capacity of 200,000 acre-feet, and an approximate total construction cost of $15,000,000.

The division engineer recommended that the plans be subject to such modification thereof and changes therein as in the discretion of the Secretary of War and the Chief of Engineers may become advisable. He stated that the multiple-purpose projects on the Missouri River will provide for the maximum practicable storage of water of the main stem. He stated that the impounded waters will be utilized to produce the maximum practicable development of irrigation, navigation, power and other multiple purposes, and that sufficient storage will be provided in each reservoir to provide for the needs of local flood protection downstream from the reservoirs as well as for the needs of the general comprehensive plan for flood control for the Missouri River Basin.

SENATE DOCUMENT 191, SEVENTY-EIGHTH CONGRESS

The plans set forth in Senate Document 191 do not provide for the construction of the Gavins Point Dam.

SENATE DOCUMENT 247, SEVENTY-EIGHTH CONGRESS

In Senate Document 247 it was recommended that five reservoirs on the Missouri River be constructed in order to more fully utilize the water resources of the basin and to most effectively serve the present and ultimate requirements of flood control, irrigation, navigation, hydroelectric power, and other uses. One of these reservoirs, Gavins Point, was listed as having a gross storage capacity of approximately 200,000 acre-feet.

Senate Document 247 provided, however, that the final storage capacities to be selected for the five reservoirs would be jointly agreed upon after more detailed plans and cost estimates have been made.

It further provided that precise elevations and heights of reservoirs and dams can be agreed upon after more detailed plans and cost estimates have been obtained and compared with benefits, and after consideration has been given to the desires and objections of persons affected by the proposed developments.

EXCHANGE OF INFORMATION

Mr. DAVIS. What is the policy of the Corps of Engineers in advising or consulting with members of the Public Works Committee at times when important modifications of this kind are contemplated?

General CHORPENING. To my knowledge, we have not formally advised the members of the Public Works Committee. There have been many informal inquiries to us and we have, in connection with those, always fully advised the members who are interested in what we are doing with the projects.

Mr. DAVIS. Has there been any high-level discussion with the Corps of Engineers as to the impression of good faith created by getting an authorization for a project and then submitting requests for funds that amount to four times as much?

General CHORPENING. There are two things involved there. One is the modification of a project which increases the cost; and the other is the change in the economic situation of the country which changes the cost.

Mr. DAVIS. So far as I am concerned, I am referring to the first one of them.

General CHORPENING. On the latter, we regret that is something beyond our control. But, on the other one, we have operated on the principle that it was incumbent upon us, working with other governmental agencies, to develop on projects authorized as individual projects or as part of a comprehensive plan, to develop and present to the Bureau of the Budget and to present to this committee what we consider to be the fullest utilization of the natural resources.

Mr. DAVIS. That raises the question as to what is your responsibility to the committees of Congress which have the job of authorizing; do they not?

General CHORPENING. Yes, sir.

BENEFIT-TO-COST RATIO

Mr. DAVIS. You stated, General, the fact that this now has a 1.1 to 1 benefit-cost ratio and that it had the identical mathematical ratio before the recent increase of $15 million. What was the benefit-cost ratio that was submitted to the Public Works Committee at the time this project was authorized at $15 million?

General CHORPENING. As I recall it, there was no cost-benefit ratio in the survey document at that time. The document as submitted was on a comprehensive plan for the entire Missouri River, of which Gavins Point was one of the projects, but there was no cost-benefit ratio in that plan for either the individual projects or for the over-all planning. Is that correct?

Mr. BOUSQUET. That is correct.

Mr. DAVIS. Is the presentation or submission of such economical data to the Public Works Committee of that recent origin?

General CHORPENING. It is of fairly recent origin. I do not recall just when on rivers and harbors projects we started to use the benefit-cost ratio, nor when we started using it as a requirement in connection with other projects. I understand that, at the time this plan was submitted for authorization, which as I recall, was in 1944, that this was an exception in that regard.

Mr. DAVIS. Do you know why?

General CHORPENING. No, I do not, sir.

STEAM GENERATING PLANTS

Mr. FORD. General Chorpening, on page 477 of last year's hearings it was rather vividly pointed out that there was a considerable variation in the flow of the Missouri River from the high peak to the very low peak. That being the case, is it possible that in order to firm up the power that you are expecting to generate on this series of dams, you will have to install steam generating plants?

General CHORPENING. It is not our expectation. We would not install any steam plants.

Mr. FORD. From an economic point of view, would it be engineeringly wise to contemplate the construction of steam plants?

General CHORPENING. If the power load of this great region increases in years to come, I can see that there is a possibility at some time of having to install steam plants as has been necessary in the Tennessee Valley.

Mr. FORD. If that is the case, would it not be proper to include in the cost of the original project the potential cost of the steam plants?

General CHORPENING. The benefits that we estimate from the power in these projects are calculated on the power as it now stands. So if we are going to inject anything for the construction of steam plants, also we would have to include on the other side of the equation the benefits therefrom.

Mr. FORD. Earlier today you testified that by 1956 all of the power that is planned to be produced will be in use by the consumers in that area. Is that a correct statement?

Colonel PAULES. That is correct. The Federal Power Commission studies also indicate the area can absorb the output not only of the main-stem projects, but the construction of additional power generating plants will be necessary in the area in a short period of years. That construction is normally done, as has been to date, by private or public utilities of the area.

Mr. FORD. Then according to that, you are not contemplating in the construction of this project, the construction of a steam plant?

Colonel PAULES. No, sir.

General CHORPENING. In answer to your previous question as to the possibility of steam plants, I did not want to leave the impression that, if constructed, they would be a Federal expenditure.

Mr. FORD. If all of the hydroelectric power on these projects is to be utilized when so constructed, is it economically justified for private utilities to build steam plants to firm up Federal power? Is that a natural conclusion to draw from what Colonel Paules said?

General CHORPENING. I think as a general rule that it works out the other way.

COMPARISON OF GENERATING COSTS

Mr. FORD. If it does, then there is no need for all the Federal power. It would be better to proceed with private utility power or small public-power installations?

General CHORPENING. It would be impossible to build steam plants in this vicinity that would produce power anywhere near as economically as can be produced by hydroelectric generation.

Mr. FORD. It can be surmised, however, that the construction of this series of hydroelectric power projects, inevitably and invariably as a result of the estimated power needs means you have got to have steam generating plants, based on the facts as brought out in Colonel Potter's testimony last year.

And in estimating the cost, so far as the Federal Government is concerned, and in figuring the relationship in benefit-to-cost ratio, the construction of steam plans in connection with any project in the area, have not been considered?

General CHORPENING. No, the benefits are computed entirely on the value of the hydroelectric power as it stands.

INCREASE OF POWER OUTPUT

Mr. FORD. Last year, at the time the justifications were presented, with the estimated cost of this project at $44,400,000, and in accordance with the justifications, there would have been an installed capacity of 100,000 kilowatts on Gavins Point Reservoir.

When was the decision made to increase the installed capacity from the initial amount of 33,333 to 100,000 kilowatts?

General CHORPENING. In the fall of 1950.

Mr. FORD. At the time that decision was made, was the increased cost resulting from the modification discussed and determined?

General CHORPENING. It was discussed, but there was no adequate determination, and that is what this statement that I have placed in the record brings out.

Mr. FORD. In other words at the time the hearings were held last year before this subcommittee it was determined to construct a dam and reservoir at Gavins Point that would involve 100,000 kilowatts?

General CHORPENING. That is correct.

Mr. FORD. But at the time the hearings were held on this project before the subcommittee there was no evaluation or reevaluation of added costs as the result of that increased installed capacity?

General CHORPENING. Nothing that was sufficient; no.

Mr. FORD. Was there any presentation made to the Senate Appropriations Committee indicating this added cost?

General CHORPENING. No, sir.

Mr. FORD. Could it have been anticipated generally, if not specifically, that there would have been an increased cost of $15,135,000 as the result of the increased installation?

CONCLUSIONS BASED UPON REVIEW

General CHORPENING. Undoubtedly at that time, if we had been able to make as complete a review as we have since made, we would have realized that the estimated cost then was too low. And, as I have stated here, since that time, all our people, myself, my own engineers, and the Chief of Engineers, personally, have gone into this matter completely and we have concluded that the data that we had at that time was not sufficiently complete, that our ideas were not sufficiently realistic, and that the request we are presenting today is therefore made.

Mr. FORD. At the time of your presentation of this project initially to the committee, and to the Senate committee, you knew you were going to increase the capacity from 33,333 to 100,000 kilowatts, and you also knew that the cost would undoubtedly show a sizable increase, but did you make any statement to that effect to them?

General CHORPENING. Actually, if I recall correctly, the cost was $44,900,000, which was based on the installation, I think, of 81,000 kilowatts.

RELATIONSHIP OF COSTS TO KILOWATTS

Mr. FORD. Would you have a $15,135,000 increase on a project cost on the basis of 19,000 increase in kilowatts?

General CHORPENING. No, sir. In addition to the increased costs required for the power installation, there have been other changes that we have found to be desirable; and increases due to the estimate being based on lower prices than is now the case.

Mr. FORD. According to the testimony on page 486, Colonel Potter said that in 1953 you would request $14 million, and I presume that was based on the estimated cost of the project of $44,900,000?

General CHORPENING. That is correct.

Mr. FORD. Now that the cost has gone up to $60,055,000, you only request of the Bureau of the Budget $15 million for expenditures in the fiscal year 1955.

General CHORPENING. We have rescheduled the date that the power will come on the line; we have moved it back 1 year.

ESTIMATED EXPENDITURES

Mr. FORD. What is the estimated expenditure in your new schedule?

General CHORPENING. Fiscal year 1954, $16,500,000.
Fiscal year 1955, $16,500,000.
Fiscal year 1956, $10,000,000.
Fiscal year 1957, $1,386,200.

HOUSING

Mr. FORD. General, last year there was some discussion about housing facilities at Gavins Point, and on page 783 of the hearings a chart was inserted in reference to that subject.

In the justifications for the fiscal year 1953 I do not see just where those possible costs are included.

General CHORPENING. I believe that is under administrative facilities, $227,000.

Mr. FORD. According to the chart on page 783, the housing facilities, 100 single-family-type cabins, $400,000 was the estimated cost.

General CHORPENING. It is our proposal now to dispense with housing units at Gavins Point.

Mr. FORD. In other words, in this justification there is no money set out for construction of housing facilities at the Gavins Point project?

General CHORPENING. That is correct. I know in my own conversations in the field and observations, too, that it is the intention to dispense with any housing if we can possibly do so; we do not want to put up any housing.

Mr. FORD. When will the first contract of any sort be let on this project with the money that is now available?

Mr. BOUSQUET. The first contract will be the South access roads, in March 1953. At the same time, a contract for turbines and governors will be awarded; the next contract would be for the earthwork in stage I in April 1952; and a contract will be awarded for generators in May of 1952.

Mr. FORD. I believe that is all, Mr. Chairman.

Mr. RABAUT. Will you supply for the record exactly how you assigned $350,000 flood-control benefits to the project?

General CHORPENING. Yse, sir.

(The information requested follows:)

In arriving at the flood-control benefits for Gavins Point, the total flood-control benefits were first determined for the main-stem reservoir system by crediting the reservoirs with the benefits for their estimated effectiveness in prevention of flooding of lands along the river between the reservoirs and Sioux City; together with a share of the total benefits of reservoirs and levees to the valley below Sioux City. This flood-control value of the main-stem system totaled an estimated $7,952,000 annually. This was assigned to the individual reservoirs on the basis of storage capacity modified to some extent on the basis of the area immediately below the reservoir. On this basis the amount creditable to Gavins Point was $350,000.

Mr. RABAUT. Will you also file for the record a statement from the Federal Power Commission as to when the power to be generated at Gavins Point will be needed?

General CHORPENING. Yes, sir.

(The information requested follows:)

FEDERAL POWER COMMISSION,
Washington, February 5, 1952.

Maj. Gen. LEWIS A. PICK,
Chief of Engineers, Department of the Army,
Washington 25, D. C.

DEAR GENERAL PICK: In compliance with the request made to you by the House Appropriations Committee, the Commission staff has made an estimate of the time at which the Gavins Point hydroelectric plant would be required to assist in meeting load requirements in Fort Randall-Gavins Point area.

For purposes of this estimate, it has been assumed that Fort Randall would have machines with a total rated capacity of 320,000 kilowatts and that the Gavins Point plant capacity would be 66,000 kilowatts, installed and ready for operation by the end of 1956. Under this circumstance the Gavins Point plant would be available for reregulation of peaking discharges from Fort Randall and the coordinated and combined output of the two plants would be 272,000 kilowatts. This would provide a margin of a little more than 100,000 kilowatts of dependable capacity over and above estimated loads at the time of the 1956–57 winter peak. This corresponds to a reserve capacity of less than 9 percent for the Fort Randall-Gavins Point area.

In the following winter, 1957–58, load demands are expected to be substantially higher and the margin of dependable capacity above load would be a little less than 50,000 kilowatts in 1957–58, thus providing a total reserve capacity for the Fort Randall-Gavins Point area of less than 5 percent, an amount that is considered inadequate for safe operation.

If Gavins Point is not built and is thus not available for reregulation of Fort Randall peaking discharges, Fort Randall cannot be operated to full advantage. Under that circumstance there would be a deficit of 125,000 kilowatts at time of winter peak in 1956–57, and of 180,000 kilowatts in 1957–58. Considering safe reserves the deficits would be even greater.

If Gavins Point is built for reregulation but without generating equipment, the reserve capacity would be reduced by 25,000 kilowatts, resulting in 6½ percent reserves in 1956–57 and 2 percent in 1957–58. In both cases reserves would be too small for safe operation.

The staff therefore concludes that there would be a need for the Gavins Point project with generating equipment by 1956.

Sincerely yours,

THOMAS C. BUCHANAN, *Chairman.*

JEMEZ CANYON RESERVOIR, N. MEX.

Mr. RABAUT. We will take up the Jemez Canyon Reservoir, N. Mex. This is a project with a total estimated Federal cost of $4,460,000. The allotments to date are $2,150,000. The amount appropriated for the fiscal year 1952 was $900,000. The tentative allocation for the fiscal year 1953 is $2,310,000. The percentage of completion of the project as of the close of the fiscal year 1952 will be 48 percent, and the money requested for 1953 will complete the project.

General Chorpening, give us a statement on this project.

DESCRIPTION OF PROJECT

General CHORPENING. This is a flood-protection project in New Mexico which had been started prior to the fiscal year 1952. We are proceeding along very well with the $900,000 allotted in fiscal year 1952, and we expect to complete the project with the funds asked for this year. It has a benefit-to-cost ratio of 1.22 to 1.

I report to the committee with gratification that we have decreased the estimated cost by the sum of $2,741,000.

Mr. RABAUT. What happened to the estimates for this project since 1952?

General CHORPENING. It has decreased in cost by $2,741,000 due to engineering modifications that we have made in the project, which enabled us to accomplish the purpose for which the project was authorized at a very considerably lesser cost, in this instance, of about a 40-percent decrease, I believe.

JOHN H. KERR RESERVOIR, VA. AND N. C.

Mr. RABAUT. The next project is "John H. Kerr Reservoir, Va. and N. C." This is the beloved project of our subcommittee. It is a project with a total estimated Federal cost of $84,860,000. The allotments to date have been $77,400,000. The amount appropriated in the fiscal year 1952 was $17,000,000. The tentative allocation for fiscal year 1953 is $6,840,000. This project was authorized under the 1944 Flood Control Act. The 1952 money brought the project to 91-percent completion, and the money requested for fiscal year 1953 will bring

the rate to 99 percent. The committee is very familiar with this project, but we would like to know what has been accomplished with the 1952 money, and what you anticipate doing with the $6,840,000 for 1953.

ACCOMPLISHMENT REPORT

General CHORPENING. With the funds appropriated in fiscal year 1952 we have proceeded with the closing features of the project; we are now installing the powerhouse and generating equipment. With the funds requested for fiscal year 1953 we will essentially complete the project with the exception of a few items such as operators' quarters and reservoir management, which will come at some time in the future. In addition, there will be a small amount required for powerhouse and switchyard equipment after this fiscal year, also.

Mr. RABAUT. It is very nice of the judge to tell us about the history of this dam, which he has done off the record, but I will call attention of the committee to the fact that there is still work to be done on this dam, and that it will be done in the years to come.

Mr. FORD. I notice there is a deduction in the cost of about $4,000,000 from last year's estimate. How do you explain that?

General CHORPENING. That is correct. We are coming to the close of construction on this project. We find that on certain phases of the project where we had put in contingencies to take care of situations that might develop during construction, actually we did not require those contingency items and we will be able to complete the project for nearly $4,000,000 less than we had estimated last year.

Mr. FORD. With the money anticipated in fiscal year 1953 everything can be completed as far as installation of power is concerned on schedule?

General CHORPENING. Barring some cataclysmic happenings that we cannot conceive of now, and the additional powerhouse items I mentioned previously.

GARRISON RESERVOIR, N. DAK.

Mr. RABAUT. We come to "Garrison Reservoir, N. Dak." This is a project with a total estimated Federal cost of $286,856,000. The allotments up to date are $148,332,700. The 1952 appropriation was $37,083,700, and the tentative allocation for fiscal year 1953 is $34,000,000. The percentage of completion as of the close of 1952 will be 55 percent, and the 1953 funds will take it to 65 percent.

GENERAL STATEMENT

General Chorpening, will you give us a statement as to what was done with the 1952 money and what is anticipated to be done with the 1953 money in the sum of $34,000,000?

General CHORPENING. With the funds appropriated in fiscal year 1952, we have made steady progress on all phases of the construction including the dam itself, the outlet works, and preliminary work looking to the ultimate power installation. With the funds requested in 1953, we will continue work on the embankment and on the outlet works, the powerhouse and spillways, and we expect to make closure of the dam in the summer of the calendar year 1953. The first power is now planned to go on the line in April 1955.

INCREASE IN ESTIMATE

Mr. RABAUT. What was the reason for the increase in estimated construction of over $18,000,000?

General CHORPENING. Two reasons; the increase in construction costs is No. 1, and I would call to the committee's attention that last year Colonel Potter testified that had we at that time applied the price rise to this project, it would have been $280,000,000. The other item of increased cost is a requirement for payment for roads and buildings of the Indian agency, and which is included in a supplemental request to the budget at this time in the amount of $8,661,000 and is shown on the justification sheet.

Mr. RABAUT. Last year we discovered they needed some increases. Now you are adding that and the new cost rises together to find this price?

General CHORPENING. No, sir.

Mr. RABAUT. What is it?

General CHORPENING. Had we applied the full price index to this project right away, it would have been higher than the estimate we thought then was a sound estimate. We find this year the cost index has gone up another 5.8 percent and we must add an additional amount of approximately $12,000,000 for this reason.

Mr. RABAUT. But you are rising it over $18,000,000. That is a whole lot more than the cost index rise.

General CHORPENING. Yes, sir.

Mr. RABAUT. If Colonel Potter did not feel last year that it was necessary to put the new cost price in at that time, why should it be put in now? I am willing to take everything that has gone up last year, but that would raise it 5.8 points, isn't that right?

General CHORPENING. That is the average amount throughout the country, but in addition to that we have had to add the $8,661,000 that will be required for the roads and buildings on the Indian reservation. That $8,661,000 is included in the total estimated cost now.

Mr. RABAUT. What is the reason for your recommended supplemental estimate of $8,661,000 for fiscal year 1952?

PAYMENTS FOR DAMAGES

General CHORPENING. There have been previous payments made to the Indians or to the Indian Service for lands and other damages that were considered to have been done to the Indians, and there was considerable question, as I understand it, last year as to whether or not those payments did not completely satisfy the requirements to the Indians. However, some months ago, I got actively into this matter because next year we are proposing to make closure. Access roads are required for the Indians on their relocated reservation and relocation of the agency buildings is necessary and must be provided. Somebody had to do it, and to resolve the question of where the payments were to come from, the Chief of Engineers submitted a supplemental request to the Bureau of the Budget for the funds required.

Mr. FORD. Will this increase of $8,661,000 which is to be paid to settle the claims with the Indians in the area be charged to the cost of construction?

General CHORPENING. It is included in the present estimated cost of $286,856,000.

ANNUAL CHARGE

Mr. FORD. Will it, in turn, be reflected in the charges that are made for power from the project?

General CHORPENING. In figuring the annual charges against the project, that amount will be included in the annual charges in which we figure interest and include amortization.

BUREAU OF INDIAN AFFAIRS CONTACTED

Mr. FORD. At the time you made your original estimates on this project, did you go to the Bureau of Indian Affairs and ask their advice as to what the possible charges might be for the acquisition of the land owned by the Indians, and the improvements on their lands?

General CHORPENING. At that time, or certainly early in the consideration of the project, there were preliminary explorations made with the Indians, and estimates made as to the value of the lands that were actually to be taken. The payments so far made to the Indians have been the result of negotiations between the Corps of Engineers and the Indian Service and the tribes under the provisions of a law passed by the Congress, and those negotiations were resolved and the contract made a couple of years ago, I believe.

Now, it was the thought in many people's minds that that had completely settled all Indian costs on the project, but a review of the entire legal situation made in the past 6 months indicated that there was some doubt as to whether it had, and when I realized that, knowing we were going to make closure next year, I recognized that we had to do something. Then, as stated, I brought the matter to the attention of the Chief of Engineers, and we did ask for a supplemental request for funds. As to the question of whether that request for funds will flow through our channels or go through Indian Service channels, I do not know if a decision has been made. But certainly we feel that the charge should be made to the project. This is for roads and the movement of agency buildings, and the estimate is based on requirements of the Indian Service. We know what items are included and we have not questioned the need for the work. It is their responsibility to defend the requirements for the various items they will require.

BUREAU OF THE BUDGET DECISION

Mr. FORD. Where will they defend the particular item? Will they come before our subcommittee, or will it be presented to the Interior subcommittee?

General CHORPENING. That I do not know. It is a decision for the Bureau of the Budget to make. I do not know for certain whether it would come before this committee or before the Interior Committee.

I should clarify one statement. We made the estimate of cost based on the plans prepared and given to us by the Indian Affairs people.

METHOD OF ARRIVING AT OVER-ALL ESTIMATE

Mr. FORD. How much of the increase of $18,856,000 is based on engineering cost index increases, and how much is based on modifications in design?

General CHORPENING. I think the best way to do this is to give the amounts, rather than percentagewise. In arriving at the over-all change in estimate price-level changes account for $11,875,000. Now, we have certain educational facilities, such as schools that we had originally thought would be required in the project are no longer required to be paid from project funds, so that results in a reduction of $1,075,000.

Then, we have found that relocating eight cemeteries that we had not previously figured on will require $100,000 more, and of course the Indian question that we have discussed added $8,661,000. In the firming up of our plans there have been a number of detailed revisions of plans which resulted in a net decrease of $1,347,000.

We have had to make revised estimates for several items in the way of regulating gates, autotransformers, and so forth, which increased the cost by $642,000, which brings it down to the net increase of $18,856,000. I give you that detail to indicate exactly how we arrived at the final amount.

Mr. FORD. On page 505 of the hearing last year there was a statement submitted for the record in explanation of increases in the estimated costs of Garrison Reservoir, N. Dak. Could you furnish comparable explanations for the record?

General CHORPENING. Yes, sir. The statement I have just made, can I elaborate on that and include some additional details?

(The information requested appears as follows:)

Fiscal year 1952 estimate	$268,000,000
Fiscal year 1953 estimate	286,856,000
Difference	18,856,000

The present estimate is based on a thorough review of the actual cost of work completed, cost of outstanding commitments, and the cost of remaining work, and prepared on the basis of prices prevailing at the time of reanalysis.

The increase of $18,856,000 between the fiscal year 1952 and fiscal year 1953 estimates is accounted for as follows:

(a) *Price level changes, $11,875,000 (increase).*—The Engineering News-Record price curve has been steadily rising and it was necessary to increase the project estimate by this amount.

(b) *Authorized project extensions, $1,075,000 (decrease).*—Cost of operation and maintenance of educational facilities excluded from project cost as a result of Public Laws 815, and 874, Eighty-first Congress., second session.

(c) *Changed local needs or situations $100,000 (increase).*—Determination that cost of relocating eight cemeteries on church-owned or alienated lands within the Fort Berthold Indian Reservation is properly chargeable to project.

(d) *Structural and engineering modifications—$1,347,000 (decrease).*—Net decrease is the result of a number of increases and decreases based on the development of detailed plans and firm estimates of work quantities and costs based thereon—the latest estimated work quantities and costs based on contracts awarded, and the actual work quantities and costs as required on contracts completed, all as occuring during the interim between the two project estimates.

(e) *Inadequacies in estimate, $642,000 (increase).*—Net increase is the result of revised estimates for several items where review indicated that the former estimates were too high or too low for the actual work contemplated. Principal increases were for regulating gates, autotransformers, and spillway regulating gates; principal decreases were for operation and maintenance of project during construction and for value of Government furnished equipment for central heating and power plant.

(f) *Relocation of Indian Service facilities, $8,661,000 (increase).*—A plan has now been prepared by the Bureau of Indian Affairs for relocation of Indian Service facilities including roads and school and administration facilities at the Fort Berthold Reservation. The estimate is based on that plan for construction of the road, school, and other administrative facilities by the Corps of Engineers.

Mr. FORD. That would be all right. Now, as I recall your statement, there were no increases resulting from structural and engineering modifications?

General CHORPENING. Yes, sir; there were some decreases and some increases which I will detail in the statement.

Mr. FORD. I asked that question because at the bottom of page 505 of last year's hearing, Colonel Potter said:

I believe that the major uncertainties at the initiation of this project are now known and there should not be any further major engineering modifications.

General CHORPENING. Actually the modifications made in the past year resulted in a decrease of $705,000 which, in a project of this kind, is relatively minor and on the correct side from everybody's viewpoint, and I think is a complete substantiation of what Colonel Potter had said.

PROPOSED SCHEDULE OF EXPENDITURES

Mr. FORD. What is the proposed schedule of expenditures in the fiscal year?

General CHORPENING. For the fiscal year 1954 it is $45,000,000; for the fiscal year 1955 it is $38,900,000; for the fiscal year 1956 it is $11,962,300, which completes the initial project.

BREAKDOWN BETWEEN POWER AND FLOOD CONTROL

Mr. FORD. What is the breakdown of the benefits between power and flood control?

General CHORPENING. Flood control is $2,380,000, which is 12.8 percent; power is $11,600,000, which is 62.6 percent; irrigation and navigation is $4,550,000, which is 24.6 percent; a total of $18,530,000.

Mr. FORD. Would this project be justifiable if the power aspects were suspended at this point?

General CHORPENING. No, sir. With 62.6 percent of the benefits attributable to power, it would not be justified without the power installation.

Mr. FORD. What accounts for the sizable costs attributable to relocations set forth on page 300 of the justification involving $9,616,500?

General CHORPENING. The railroad relocations of the Minneapolis, St. Paul & Sault Ste. Marie Railroad and of the Great Northern Railway total $5,900,000. There are many highway relocations of State and country roads which total $6,250,000. There is one major bridge replacement at Sanish in the amount of $5,995,000. There are a considerable number of utility relocations, none of which are large, but the total is $282,000. There are quite a number of cemeteries which add up to $112,000. We have to do some movement of towns, and that amounts to $274,000. We have to put in levees and appurtenant works for Williston, N. Dak., and for some irrigation projects, which totals $8,486,000, which gives a grand total of all relocations for this project of $35,960,000.

Mr. FORD. Were any of these REA steam plants, and I presume they are steam plants, built recently since this project was authorized?

General CHORPENING. I am not aware of those and we can probably get some information on them if you would like it.

Mr. FORD. Would you furnish for the record when the Williams County Co-Op was constructed?

(The information requested appears as follows:)

The Williams County Co-op consisted of three substations. The dates these stations were energized are as follows:

Williston, August 30, 1947 (replaced by Bureau of Reclamation January 1951).
Ray, June 25, 1949.
Zahl, July 20, 1949.

General CHORPENING. Yes, sir.

HOUSING

Mr. FORD. What is the status of the housing facilities in the project?

General CHORPENING. Housing facilities, I believe are all completed. Yes, sir.

Mr. FORD. What schedules of rentals are you charging?

General CHORPENING. At this time we are charging the schedule of rentals which had been approved at that time and they are the same schedules which were in effect last year.

Mr. FORD. As I recall, those rentals were nowhere near reimbursing the Government for capital expenditures.

General CHORPENING. In most instances, that is true.

Mr. FORD. Would you prepare for the record a statement showing the cost of the housing facilities, and number and kind of housing facilities, and the revenue derived from the use of those housing facilities for the last year?

General CHORPENING. Yes, sir.

(The information requested appears as follows:)

Type	Number of family units	Number of bedrooms per unit	Number of rooms per unit, including bedrooms	Construction cost		Date completed	Fiscal year 1951, total	Receipt rent per unit
				Total	Per unit			
RIVERDALE								
Temporary, frame, duplex	40	1	3	$394,787	$9,870	1948–49	12,120	303
Temporary, frame, single	50	2	4	565,758	11,315	1948–49	17,680	354
Temporary, frame, duplex	50	2	4	595,162	11,903	1949	17,680	354
Temporary, frame, single	68	3	5	977,487	14,375	1948–49	27,475	404
Temporary, frame, duplex	44	3	5	585,860	13,315	1949	17,780	404
For efficiency apartment (temporary frame)	4	1	2	660,093	8,262	1949	1,211	151
Do	4	0	1	660,093	8,262	1949	1,211	151
Temporary, prefabricated, single	6	2	4	508,265	5,910	1950	2,120	353
Temporary, prefabricated, duplex	48	3	4	508,265	5,910	1950	16,970	353
Temporary prefabricated, single	12	3	5	508,265	5,910	1950	4,850	404
Temporary, prefabricated, duplex	20	3	5	508,265	5,910	1950	8,080	404
Permanent brick, single, 2-story	5	3	6	180,593	36,119	1949	2,020	404
Do	5	4	8	208,609	41,722	1949	2,275	455
Permanent frame, 2-story duplex	20	2	4	402,216	20,111	1949	7,070	353
Permanent frame, single with basement	15	2	5	339,594	22,640	1949	5,300	353
Do	46	3	5	1,093,074	23,762	1949	18,590	404
Hotel dormitory, frame, basement (3 wings and annex)				436,070	436,070	1949	35,366	35,366
Double room			70					
Single room			136					
8 apartments			(16)					
Barracks building, frame (2 units)			160	359,212	179,606	1949	(1)	
Total	437			6,712,780			196,587	
FORT LINCOLN								
Permanent quadruplex, brick, 2-story	4	2	4–5	25,000	6,250	1904	1,120	280
Permanent single, brick, 2-story	1	4	8	16,500	16,500	1906	805	805
Permanent quadruplex, brick, 2-story	4	2–3	4–5	31,100	7,750	1906	1,200	300
Permanent duplex, brick, 2-story (2 buildings)	4	4	7	28,300	7,075	1904	1,460	365
Permanent quadruplex, brick, 2-story	4	1–2–3	3–4–5	30,100	7,525	1906	1,120	280
Permanent single, brick, 2-story	1	3	7	7,700	7,700	1903	320	320
Permanent single, brick, 1-story	1	2	5	13,700	13,700	1903	280	280
Permanent single, brick, 2-story	1	3	5	4,600	4,600	1903	320	320
Permanent triplex, brick, 1-story	3	1–2	3–4–5	28,000	9,333	1903	800	270
Permanent duplex, brick, 2-story (2 buildings)	4	2	4	15,900	3,975	1902–06	1,120	280
Permanent single, frame, 1-story (substandard)	1	2	4	500	500	1901	240	240
Permanent single, frame, 2-story	1	3	5	5,300	5,300	1902	320	320
Permanent duplex, brick, 2-story (1 floor not used)	1	2	4	12,100	12,100	1903	280	280
Permanent duplex, brick, 2-story	2	1–2	3–4	8,800	4,400	1908	520	260
Prefabricated duplex, frame (substandard) (3 buildings)	6	1	3	7,680	1,280	1947–48	1,200	200
Prefabricated duplex, frame (substandard) (12 buildings)	24	2	4	48,600	4,050	1947–48	5,775	240
Prefabricated duplex, frame (substandard) (3 buildings)	6	3	5	34,840	5,800	1947–48	1,685	280
Prefabricated single, frame (substandard)	1	1	3	2,560	2,560	1947–48	200	200
Do	1	3	5	7,614	7,614	1947–48	280	280
Frame, converted barracks (substandard)	2	2–3	5	3,300	1,650	1936	520	260
Do	8	1–2	3–4–5	8,500	1,060	1934–36	1,885	235
Frame, single (substandard)	1	2	5	1,100	1,100	1934	240	240
Do	1	1	3	1,300	1,300	1935	200	200
Dormitory, frame		23	23	6,000	6,000	1935	1,935	
Totals	82			357,094			23,825	
Grand total	519			7,069,874			220,412	

[1] 22 Const. Contractor without payment of rent in accordance with term of contract.

Remarks: All prefabs are second-hand buildings, and dates given are dates reerected. Ten sets of quarters (prefabs) reserved for military enlisted personnel, and no receipts included therefor. During fiscal year 1951, dwellings can be considered unoccupied by 10 percent of total receipts.

Mr. FORD. You have had those facilities in operation a year, haven't you, General?

General CHORPENING. Oh, yes, and most of them longer than a year.

Mr. FORD. I want to be able to determine whether or not, under the schedule of the present time, the Government is getting anywhere near its return on its capital investment?

General CHORPENING. Yes, sir.

OPERATION OF TOWN

Mr. FORD. What is the $500,000 for town and functional operation on page 300?

General CHORPENING. That is for the operation of the two that exists there, the expenses of actually running the village that exists at the site.

Mr. FORD. What kind of expenses would you have in a project of that sort?

General CHORPENING. Fire department, police department, utilities, all of the expenses that would be borne or would be required in any town of that size.

Mr. FORD. In any town of that size where you had expenses of that sort, the taxes from the facilities where people live would go to pay those expenses?

General CHORPENING. That is correct.

Mr. FORD. And in this situation the Government does not get sufficient rental to pay the capital cost of the housing facilities and in addition they are subsidizing the operations which would normally be paid for by taxes on the property. It doesn't make sense.

General CHORPENING. Well, we do not like to build villages at our dams and we do not do it if we can avoid it. In this instance this dam is a long way from any town of any consequence and it was the only practical manner in which we could proceed efficiently and reasonably with the construction.

Mr. FORD. You haven't got any more word from "higher authorities" as to when this long-delayed and long-overdue directive in reference to rentals is coming?

General CHORPENING. It is my advice that that will be forthcoming soon. We have not received it, to my knowledge, yet.

Mr. FORD. It probably won't be available before these hearings are completed and before you submit this statement that I have requested, but when you do and before the bill comes to the floor of the House, I would like to have someone in the Corps of Engineers prepare a statement showing how much has been lost by the delay of the Department of Defense in not issuing this order more promptly. In other words, you are going to make a chart showing how much rentals were collected under the present order, and I would like to have that carried back under the new order just for comparison purposes.

General CHORPENING. Would you like to have that for one year, what the difference would be under the new rates and under the old rates? That would make it simpler; for 1 year these are the amounts collected under the old rates, and this is the amount that would have been collected under the new rates.

Mr. FORD. Since I have no faith in the Department of Defense in the issuance of that order in the near future, I don't want to hold up the insertion of that statement in reference to past performance while you are waiting for the "higher authorities" to issue the new one.

General CHORPENING. You are asking that we place the first request in the record?

Mr. FORD. Yes.

General CHORPENING. And the last one you want at such time as we receive it? If I could talk off the record a moment, I might explain.

(Discussion off the record.)

Mr. RABAUT. I note here on the Garrison Reservoir project that there are 12 pages of justifications. I mention that because of the fact that the other day some civilian engineers were asking me about it and thought that all of these justifications ought to be put in the hearings and I said, "We then would have an increase in the cost of Government."

FORT GIBSON RESERVOIR, OKLA.

Mr. RABAUT. Next we have "Fort Gibson Reservoir, Okla." This project has a total estimated Federal cost of $43,882,000. The allotments to date are $41,099,500. There was appropriated in fiscal year 1952 the amount of $2,400,000. There is a tentative allocation for fiscal year 1953 of $525,000. As of the completion of fiscal year 1952 the project will be 94 percent complete and the 1953 money will take it to 95 percent.

Give us a general statement on this project as to what was accomplished with the $2,400,000 in the 1952 appropriation and what you intend to do with this $525,000 for fiscal year 1953?

DESCRIPTION OF PROJECT

General CHORPENING. This is a multipurpose project on the Grand River in Oklahoma, and with the funds appropriated in 1952 we will have essentially completed the project, the major portion of those funds being applied to the completion of a railroad relocation, to the completion of State and county road relocations, and some funds are required in connection with power generating and powerhouse facilities. With the funds requested in fiscal year 1953, $525,000, there are amounts of: $68,500 required for completion of the powerhouse and switchyard; $192,000 for the completion of a railroad relocation; and $97,100 for the highway and county road relocation.

(Discussion off the record.)

General CHORPENING. We expect to place the first power on the line in February of 1953, two units, the third unit in April of 1953, and the fourth unit in June of 1953.

BENEFIT-TO-COST RATIO

Mr. FORD. In the original authorization the benefit-to-cost ratio was stipulated to be 1.48 to 1. Last year it was 1.15 to 1. What is the current?

General CHORPENING. 1.26 to 1. That increase over last year is a result of two things; one, you will note that the estimated cost this year is $1,118,000 less than the estimated cost last year, and we have

made a reevaluation of the benefits which accounts for the slight favorable increase over last year in the benefit-to-cost ratio.

ESTIMATED COST

Mr. FORD. Am I correct in reading the record of last year that in 1951 the estimated cost was $45,900,000 and in 1952 it was $45,000,000 even, and this year it is estimated to be $43,882,000?

General CHORPENING. That is correct.

Mr. FORD. How do you account for those decreases?

General CHORPENING. As this project has come to its closing stages we have found that some of the contingency items we had set up were not required, and we have received favorable bids which enabled us to reduce the over-all estimated cost.

Mr. KERR. How thick is this concrete that you use on the spillway?

General CHORPENING. I would estimate that the thickness of that concrete there is probably about 3 or 4 feet, Judge. It depends largely on the height of the dam, the fall. It is designed, that is the thickness of the concrete, based on the engineering conditions that exist there. I may say that in all of these projects, and I personally initiated the construction of this one myself, we make model tests of the designed spillways to determine whether or not the theoretical designs as our engineers figured them will work out with the models. It is very interesting. Many times we discover that modifications are essential, modifications that will give us a much better structure, sometimes a more economical structure, and sometimes we find we have to add to it in order to set up the proper conditions of flow and to reduce the turbulence and therefore the destructive action of the water as it goes away from the structure.

The spillway is an integral part of the structure that we must have in connection with the dam and the powerhouse because the water in flowing over the dam and coming through the powerhouse has a lot of erosive force, velocity that must be dissipated, and we must be sure that our structure is so built that there is no chance for erosion that might endanger the structure itself. We normally put in a cut-off wall at the end of spillways so that the erosive action of the water cannot cut back in under the apron.

Mr. KERR. Do you have to drive piles for the spillways?

General CHORPENING. That is entirely dependent on the nature of the foundation. If we have solid rock on which we are founding the spillway, we do not have to put down piling. On the other hand, if we have a weak foundation rock, such as the Bearpaw shale we encountered at Fort Peck, we have to put concrete or timber piling underneath the spillway structure.

TENKILLER FERRY RESERVOIR, ILLINOIS RIVER, OKLA.

Mr. RABAUT. Next we have "Tenkiller Ferry Reservoir, Illinois River, Okla." This is a project with a total estimated Federal cost of $23,100,000. The allotments to date are $19,988,200. There was an amount appropriated in fiscal year 1952 of $3,500,000. The tentative allocation for fiscal year 1953 is $2,250,000. This project was authorized in the 1938 Flood Control Act and the 1946 Rivers and Harbors Act. This project will be 87 percent complete as of the

close of fiscal year 1952, and new money for 1953 would bring the rate of 97 percent.

General, what is the reason for the increase in the estimated cost?

INCREASE IN ESTIMATED COST

General CHORPENING. Last year we reduced the estimate by $2,500,000. It looks as if we reduced it too much because we found as we got near to completion of the construction of the project, that based on the bids which we had opened, and the work we were doing, we had taken too much of a decrease.

DESCRIPTION OF PROGRESS

Mr. RABAUT. Tell us about this project; what you are going to do with the money?

General CHORPENING. This is a multiple-purpose project being built on the Illinois River, a tributary of the Arkansas River in Oklahoma. It is being built for both flood control and power. With the funds available in 1952, we are proceeding with the completion of the embankment and spillway crest gates, power facilities and relocation of roads and the completion of the land acquisition. Those are the major features.

In 1953, with the funds requested, we propose to complete the installation of spillway crest gates, continue the installation of the powerhouse equipment items and the construction of the powerhouse, and complete the relocation of county roads, cemeteries, and telephone lines. We expect to place the first power on the line in June of 1953.

Mr. RABAUT. Will you justify the item of "Construction quarters for operating personnel by continuing contract"?

General CHORPENING. That is an item which is deferred for some future year. There is nothing asked for in this appropriation for that.

Mr. KERR. You say that will be complete in 1953?

General CHORPENING. Yes, sir, in 1953.

We propose to utilize $301,000 to furnish and install the spillway crest gates.

POWER FACILITIES

Mr. KERR. You have got an estimate of $90,053 for power facilities.

General CHORPENING. Yes, sir, that is to furnish and install powerhouse equipment items by continuing contracts that are now under way.

Mr. FORD. What is your proposed request for fiscal year 1954 on this project?

General CHORPENING. $535,000 and in 1955 it is $326,800.

Mr. FORD. Are all of those items which you are contemplating necessary during the present critical emergency?

General CHORPENING. No. I may say this; in projecting our request into future years they are generally made on the basis that the present emergency will have passed and that the criteria under which we now operate will no longer be operative. If the present criteria are in effect, it is certain that some of these items now listed here would not be asked for. That statement is a general one which applies to all projects in this budget.

BENEFIT-TO-COST RATIO

Mr. FORD. Can you supply for the record the benefit-to-cost ratio on this project when it was initially approved?

General CHORPENING. Yes, sir.

Mr. FORD. According to the record of last year, the benefit-to-cost ratio was not given at that time. Do you recall what it was then?

Mr. BOUSQUET. It was 1.09 last year.

General CHORPENING. I would like to answer your question, Mr. Ford. At the time this project was authorized, the benefit-to-cost ratio for this project was not specifically figured since it was an element of the over-all Arkansas River multiple purpose plan.

Mr. FORD. Last year it was 1.09 and this year it is stated to be 1.17?

General CHORPENING. On this project there was a reevaluation of the benefits and costs.

Mr. FORD. A more favorable ratio occurs despite the added cost of the project?

General CHORPENING. Yes, sir.

DETROIT RESERVOIR, OREG.

Mr. RABAUT. Next we have "Detroit Reservoir, Oreg." This is a project with a total estimated Federal cost of $67,462,000, with allotments to date of $53,412,200. There was a sum appropriated in 1952 of $16,978,000. The tentative allocation for fiscal year 1953 is $10,700,000. It was authorized in the 1938 and 1946 Flood Control Acts, and at the end of fiscal year 1952 it will be 79 percent completed, and 1953 funds would bring it to 95 percent completion.

DESCRIPTION OF PROGRESS MADE

Give us a statement as to what has been accomplished with the money that you received in 1952 and what you intend to do with the $10,700,000 that you are requesting for 1953?

General CHORPENING. With the funds allocated in 1952 we have applied the major portion to the construction of the concrete gravity dam, $10,562,000. Over $1,000,000 was utilized in connection with the powerhouse superstructure, and lesser amounts on the turbines, governors, and generators. $2,612,100 was utilized in connection with the Big Cliff reregulating dam which is a component part of this project.

In 1953 we propose to utilize approximately $2,500,000 for the completion of the main dam and $1,461,000 for the generators, smaller amounts for other power equipment, and $3,393,600 for the completion of the Big Cliff reregulating dam and $746,100 on the powerhouse equipment at that dam. With this appropriation, this project will be well along toward completion. We propose to place the first power on the line from the Detroit Dam in June of 1953, and on the Big Cliff reregulating dam in December of 1953.

BENEFIT-TO-COST RATIO

Mr. RABAUT. How do you account for the increase in the benefit-to-cost ratio from 1.01 to 1.23?

General CHORPENING. In two fashions: One. It will be noted that the estimated cost of this project has been reduced by $2,335,000. Two. We have revalued the benefits, and the combination of those results now in a benefit-to-cost ratio of 1.23 to 1.

DECREASE IN COSTS

Mr. FORD. How is the decrease in costs of $2,335,000 accounted for?

General CHORPENING. Principally by the fact that construction quantities on the main dam were less than we had previously estimated. Those construction quantities would, of course, be concrete, and it doesn't take too much of a reduction in quantities there to account for a substantial sum. That was probably due to the foundation being better than we had contemplated it might be.

VARIATION IN POWER BENEFITS

Mr. FORD. According to the testimony last year, on page 515 the power benefits were given as 49 percent. The 1953 justification indicates the power benefits are 54 percent. How do you account for the change in the benefits?

General CHORPENING. There was a reevaluation of the power benefits based on further studies of how much power could be actually produced.

Mr. FORD. In other words, there is an indication that there would be greater power potential there?

General CHORPENING. There is no more potential there. We are going to install the same amount of power but further studies indicate there will be water available to produce more power than originally contemplated. I would like to check that.

(The information is as follows:)

The value of power delivered to load centers from Federal plants in the Columbia River system was carefully analyzed in connection with the recent review report on the Columbia River and tributaries. This value, based on price levels of January 1, 1948, is 4.46 mills per kilowatt-hour, and is applicable to power at a load factor of 75 percent. The value of power can also be expressed as a dependable capacity value of $16.16 per kilowatt per year plus a primary energy value of 2 mills per kilowatt-hour. The above values are for power delivered to the load center, and must be adjusted for costs of transmission and power losses in transmission. The power value of Detroit was conservatively estimated in fiscal year 1952 on the basis of 4.46 mills per kilowatt-hour. Such an evaluation, being based on an over-all load factor of 75 percent (which is equivalent to 6,570 kilowatt-hours annually for each kilowatt-hour of dependable capacity), does not take into account the entire benefit to the system of a peaking plant such as Detroit. In fiscal year 1953, however, power benefits were analyzed on the alternative basis of $16.16 per kilowatt per year and 2 mills per kilowatt-hour. This evaluation, taking into consideration the full dependable peaking capacity of the Detroit plant, resulted in an increase in the estimated power benefits.

Mr. FORD. What is the explanation of the $63,000 under the heading of "Fish facilities" on page 315?

General CHORPENING. A contract or agreement has been entered into with the State whereby the State operates the hatcheries, and maintains them. That agreement is to continue over a period of years whereby we will pay an amount to them each year for what it costs the State to maintain and operate the hatcheries occasioned by this project that are required in addition to their regular hatcheries. At the conclusion of this period, and as I recall it was 8 years, it is expected that there will be sufficient information available upon which we can determine the capitalization of that added maintenance and that is why $2,900,200 still remains in future years.

Mr. FORD. That sum is not a definite sum at the present time?

General CHORPENING. No, sir.

Mr. FORD. You don't know whether that would be payable in 1954, 1955, or just when?

General CHORPENING. It would be payable at some definite date in the future, and as I recall, it is 8 years, but I don't know what the date was that we actually entered into this agreement with the State.

This arrangement was made in lieu of constructing fish ladders. There are no fish ladders in this project.

Mr. FORD. But this is a binding contract with the proper authorities in the State of Oregon?

General CHORPENING. Yes, sir.

Mr. FORD. And it obviated the necessity for the construction of fish ladders?

General CHORPENING. Yes, sir.

Mr. FORD. Can it be any more than $2,900,200?

General CHORPENING. I would have to check the provisions of the contract to see whether there are any clauses in there that make an upper limit to it.

Mr. FORD. Would you put that statement in the record?

General CHORPENING. Yes, sir.

I may say that I visited one of those hatcheries last fall. It seems to be operating very well and all parties concerned feel that the arrangement is most satisfactory.

(The information requested appears as follows:)

Agreement has not been reached with the State as to what the actual operation and maintenance cost of fish facilities charged against the Detroit Dam will be after the dam is closed and all fish blocked.

The Marion Forks hatchery facilities were placed in operation in July 1950 under an interim contract with the State providing for reimbursement of the State by the Federal Government for the cost to the State of all necessary expenses incurred by the State for the proper operation and maintenance of the hatchery and equipment, subject to continuance by renewal of the contract on an annual basis.

All phases of the program of fish management in the Columbia River Basin and tributaries are currently under reexamination by the Fish and Wildlife Service, the States of Washington and Oregon, and the Corps of Engineers, including the problems of maintenance and operation of facilities and improvements after they are installed with the view that equitable arrangements may be worked out with respect to responsibilities and activities of the Federal Government. The $2,900,000 required after fiscal year 1953 for Detroit Reservoir for capitalized operating cost of fish facilities will fully cover any operation and maintenance costs under consideration.

(Discussion off the record.)

LOOKOUT POINT RESERVOIR, OREG.

Mr. RABAUT. "Lookout Point Reservoir, Oreg.," is a project with a total estimated Federal cost of $96,611,000. The allotments to date have been $50,009,700. The amount appropriated in fiscal year 1952 was $16,000,000. The tentative allotment for fiscal year 1953 is $17,250,000. As of the close of 1952, it will be 52 percent completed, and the 1953 money would bring the rate to 70 percent of completion.

General, give us a statement of this project as to the progress with the fiscal year 1952 money, and what you intend to accomplish with the money requested in fiscal year 1953.

REPORT OF PROGRESS

General CHORPENING. With the fiscal year 1952 appropriation we propose to make very significant progress on the relocation of railroads and highways, $6,735,300 has been allocated for that purpose.

To the main dam, somewhat over $6,000,000 has been allocated; powerhouse equipment, about $1,400,000; and $1,000,000 for lands for the Dexter reregulating dam. Those are the principal items.

Now, in 1953 we propose to apply the major portion of the money, $7,412,500 to the main dam, and approximately $5,500,000 to the power facilities, the powerhouse structures, generators, turbines; some lesser amounts in connection with fish hatcheries under arrangements similar to what I described at the Detroit Reservoir a few minutes ago; some relocations at the Dexter reregulating dam, and some $1,050,000 to the Dexter Dam and appurtenances itself.

REASON FOR INCREASE IN ESTIMATED COST

Mr. RABAUT. What is the reason for the approximately $8,400,000 increase in the estimated cost?

General CHORPENING. That increase is partially due to the application of the increase in construction costs. This project was less than half completed last year, but a large part was due to unexpected requirements in connection with the relocation of railroads and highways where we found that our original notions about the stability of the soil were not reliable and we had to do considerably more excavation on this project than we had anticipated.

BENEFIT-TO-COST RATIO

Mr. RABAUT. How do you account for the increase in the benefit-to-cost ratio from 1:16 to 1:22?

General CHORPENING. That is based on a revaluation of the benefits as we have done with most of our projects this year.

I might state for the record that we now schedule the first two units on Lookout Point Reservoir to be on the line in July of 1954; and the Dexter reregulating dam, the first unit and the only unit, in December 1954.

ESTIMATED COST INCREASES

Mr. FORD. What was the original estimated cost of this project, General?

General CHORPENING. There were two authorizations; one in 1938 and the other in 1950. The total of those two authorizations was $51,941,000.

Mr. FORD. The present estimated cost is $96,611,000?

General CHORPENING. That is correct.

Mr. FORD. It is an increase in the last fiscal year of $8,381,000?

General CHORPENING. Yes, sir.

Mr. FORD. The previous cost increases were attributable to what?

General CHORPENING. I would think mostly increases in construction costs, in view of the fact that one authorization was back in 1938. Certainly a great amount of that was attributable to an increase in construction costs.

Further, I would judge that the estimate on which the authorization was based in 1950 was probably made in 1948 or 1949.

ANNUAL BENEFITS

Mr. FORD. Last year, on page 525 of the testimony, the annual benefits were stipulated as $4,934,000. According to the justification this year, on page 323, the average annual benefits total $5,646,800. What has transpired to bring about that change?

General CHORPENING. We made a reevaluation of all benefits and I can give you or supply for the record the benefits under the various headings as we now have them.

Mr. FORD. Will you supply them for the record?

General CHORPENING. Yes, sir.

(The information requested appears as follows:)

Benefits

Flood control:		
Reduction of flood damage	$2,702,900	
Increased land use	190,800	
Subtotal		2,893,700
Power at site:		
Lookout Point Dam	$1,517,000	
Dexter reregulating dam	295,600	
Subtotal		1,812,600
Navigation		123,000
Irrigation		260,300
Drainage		148,000
Pollution abatement		236,700
Domestic water supply		99,800
Downstream power		16,700
Recreation:		
Lookout Point Dam	30,100	
Dexter reregulating dam	25,900	
		56,000
Project total		5,646,800

Mr. FORD. Is all your power equipment contracted for at the present time?

General CHORPENING. I couldn't make the statement that all of it is contracted for. A great amount of it is contracted for. You are talking principally, I believe, about the power equipment?

Mr. FORD. That is correct.

General CHORPENING. Yes, sir.

Mr. FORD. Could you supply for the record some information on that?

General CHORPENING. Yes, sir.

(The information requested is as follows:)

Power equipment contracts

Have been placed:	
3 generators awarded Nov. 19, 1951	$2,292,763
3 turbines awarded Sept. 13, 1951	1,690,590
3 transformers awarded Dec. 19, 1951	321,558
3 penstock gates (including guides and hoists) awarded Jan. 8, 1952	240,186
Additional contracts to be awarded in fiscal year 1952:	
3 turbine governors est	120,000
200-ton powerhouse bridge crane was advertised Nov. 20 1951, bids were opened Jan. 17, 1952 (contract has not been awarded)	193,842

NOTES.—Other powerhouse equipment including wiring, switch gear, and miscellaneous items of equipment have not as yet been advertised.

No contracts for Dexter powerhouse equipment have been advertised or awarded.

POWER NEEDS

Mr. FORD. It appears to me that there is not enough detail in the justification to justify the power needs in that particular area. Can you be any more specific in that regard?

Lieutenant Colonel PAULES. The power at this project is justified as a part of the needs of the entire Northwest area. It will serve the Willamette Valley and assist in serving the Portland area.

Mr. FORD. What is the connection between the needs of the Willamette area and the Portland area in the national defense?

Lieutenant Colonel PAULES. Somewhere in the order of 50 percent of the aluminum in the United States is produced in the Northwest area. I don't have the exact figures.

Mr. FORD. How much of that would use power generated by the Lookout Point Reservoir?

Lieutenant Colonel PAULES. All of the power from our projects goes into a power pool. It is marketed by the Bonneville Power Administration who markets all the Federal power in the area and sells it in conjunction with the Northwest power pool, which has all of the power facilities of the other States under its control. It would be impossible to trace exactly where each kilowatt goes within the system.

Mr. FORD. But the power from this project would also go into that pool?

Lieutenant Colonel PAULES. Yes, sir.

Mr. FORD. Are you handling the fish problem in the same manner as you are in the Detroit Reservoir case?

General CHORPENING. Yes, sir.

ESTIMATED EXPENDITURES

Mr. FORD. What are your anticipated expenditures in the coming fiscal year?

General CHORPENING. I want to check this for the record because these figures do not exactly coincide with our 6-year program. Fiscal year 1954 is $20,000,000; fiscal year 1955 is $4,800,000; fiscal year 1956 is $4,300,000; fiscal year 1957 is $251,300.

Mr. FORD. I am looking at the statement made by Colonel Potter last year on page 528 where he gave the estimated expenditures in future years. They were anticipated to end in fiscal year 1955. Has there been a change in the program for this project?

General CHORPENING. There has been some change in our plans for placing the first power on the line, and in making that change it of course became necessary to revise the estimated requirements in future years.

(The revision of the estimated requirements is as follows:)

Fiscal year—		Fiscal year—	
1954	$16,947,500	1957	$336,000
1955	5,000,000	1958	130,000
1956	730,000	After fiscal year 1958	6,207,800

Mr. FORD. In other words, the power will not go on the line as quickly as was anticipated?

General CHORPENING. It will be placed on the line 6 months earlier than previously anticipated.

Mr. FORD. Didn't you just read to me a list of proposed expenditures that went beyond 1955?

General CHORPENING. Yes, sir.

Mr. FORD. Last year Colonel Potter stopped in fiscal year 1955.

Mr. BOUSQUET. We are speeding up the initial installation of power some 6 months. Last year we showed a figure of $15,000,000 for 1953. Actually this year we are requesting a little more. Now the final cleanup of the project, including some of the reservoir management work is spread over later years.

CONTINUING CONTRACTS

Mr. FORD. Are you initiating any contracts with the funds requested for 1953 that will be continuing contracts in the next fiscal year?

Mr. BOUSQUET. Yes, sir. The contract for the earth dam and concrete spillways and appurtenances for the Dexter reregulating dam will be awarded in 1953 and will continue over into 1954 and 1955. A continuing contract for power facilities of the Dexter reregulating dam will be initiated in fiscal year 1953 and will continue on. Similarly, contracts for relocations connected with the Dexter reregulating dam will be initiated in 1953 and continued through the middle of 1954.

DEXTER-REREGULATING DAM

Mr. FORD. Out of the $17,250,000 requested for the entire project, how much is allocated to the Dexter reregulating dam?

Mr. BOUSQUET. You mean the continuing contract, or all of them?

Mr. FORD. All of them for fiscal year 1953.

General CHORPENING. $2,053,000.

Mr. FORD. The construction on the Dexter reregulating dam for fiscal year 1953 is entirely separate from the construction requested for Lookout Point Reservoir, is that correct?

General CHORPENING. Those proportions shown in the justification are indicated separately from the main Lookout Point Dam. However, the Dexter reregulating dam is a component of the over-all project and we did allot $1,000,000 of the funds available in fiscal year 1952 to the Dexter reregulating dam.

Mr. FORD. That $1,000,000 is allocated to purchase of land and damages?

General CHORPENING. Yes, sir.

Mr. FORD. So you have really not initiated any construction on the Dexter reregulating dam as yet?

General CHORPENING. That is correct, sir.

WILLAMETTE RIVER BANK PROTECTION, OREGON

Mr. RABAUT. "Willamette River bank protection, Oregon", is a project with a total estimated Federal cost of $10,423,400. Allotments to date are $4,694,400. The 1952 appropriation was $400,000 and the tentative allocation for fiscal year 1953 is $400,000. The project, as of the close of 1952 will be 45 percent completed, with the money for 1953, the rate would be advanced to 49 percent.

DESCRIPTION OF WORK

Please make a general statement on this, General.

General CHORPENING. This is a project for the prevention of bank erosion on the Willamette River, which is another river that has proclivities for swinging back and forth and destroying very valuable lands which are used for orchards, and agricultural purposes. The work included in the authorization spreads over many miles of the length of the river, and we propose, with the funds requested in fiscal year 1953, to work at those points where the most serious erosion is now occurring.

Mr. RABAUT. What portion of this work is attributable to the 1936 act? I notice that its authorization is under the 1936, 1938, and 1950 Flood Control Acts.

General CHORPENING. Under the 1936 act, $2,430,000; under the 1938 act, $2,300,000; under the 1950 act, $4,506,000; total authorization estimates were $9,236,000.

Mr. RABAUT. What portion of the funds for fiscal year 1953 are attributed to which of these acts?

General CHORPENING. I would have to supply that for the record.

(The information requested is as follows:)

The work authorized by the 1936 act is 100 percent complete. The use of 1953 appropriations are not required.

One hundred and fifty-nine thousand six hundred dollars of the 1953 appropriations will be used for work authorized by the 1938 act. Of this work 93 percent will be completed at the end of fiscal year 1952 and 100 percent at the end of fiscal year 1953.

Two hundred and forty thousand dollars of the 1953 appropriations will be used for work authorized by the 1950 act. Of this work 4 percent will be completed at end of fiscal year 1953.

Work authorized in 1936	$2,430,000
Work authorized in 1938	2,424,000
Total	4,854,000
Appropriations to date	4,694,400
From 1953 appropriation	159,600

TENTATIVE ALLOCATIONS, FISCAL YEAR 1953

Mr. RABAUT. I notice that you have here the $400,000 for tentative allocation in 1953. Where is the breakdown?

General CHORPENING. There is no breakdown other than this. We have some maps which indicate where we propose to apply these funds.

Mr. RABAUT. Is it all bank protection?

General CHORPENING. Yes, sir; it is all bank protection.

Mr. RABAUT. And it is all in this project?

General CHORPENING. Yes, sir.

Mr. RABAUT. And the rate per foot or mile is in accordance with the usual cost?

General CHORPENING. Yes; and in accordance with the conditions that exist at that particular point. In some places it might be deeper than others, depending on the nature of the bank.

BANK PROTECTION

Mr. KERR. What success are you having in the construction of the bank protection work authorized under the flood control act?

General CHORPENING. We have had good success at those points where we are able to go in and do a complete job.

Mr. KERR. If it will work, it will take care of the river course much cheaper than any other way; is that not true?

General CHORPENING. Yes, sir; and this project has a rather favorable benefit to cost ratio of 1.4 to 1. It is extremely valuable land in the Willamette River Valley that is highly developed. I have ridden through the valley and they have many, many fine orchards and agricultural farms there.

CONTINUING CONTRACT

Mr. FORD. Do you have any continuing contracts that will be initiated with the fiscal year 1952 funds that you are seeking money for in fiscal year 1953?

Mr. BOUSQUET. Yes, sir; there is one, location No. 9, an upstream extension to be awarded in May of 1952, which will require additional funds in fiscal year 1953 in the amount of $23,000.

Mr. FORD. Out of the $400,000 in the budget for fiscal year 1953, only $23,000 would be applicable on a continuing contract initiated in fiscal year 1952, or with fiscal year 1952 funds?

Mr. BOUSQUET. That is correct, sir.

Mr. FORD. Are there any local contributions to this project?

General CHORPENING. All lands, easements and rights-of-way are required to be provided by local interests in accordance with section 204 of the 1950 act.

REQUEST FROM THE BUREAU OF THE BUDGET

Mr. FORD. What did the Corps of Engineers request of the budget in fiscal year 1953?

General CHORPENING. $400,000.

Mr. FORD. All within ceiling?

General CHORPENING. Yes, sir.

Mr. FORD. On the over-all project, the cost has gone up $432,000. How do you account for that, General?

General CHORPENING. It is accounted for by the general increased construction costs.

Mr. FORD. Based on the engineering index?

General CHORPENING. Yes, sir.

Mr. FORD. Last year the Corps requested $600,000 for this project, and the Bureau of the Budget cut it to $100,000. Does that indicate that the Bureau of the Budget was not convinced entirely of the national defense aspects of this project?

General CHORPENING. I am not aware of the reason that the Budget Bureau used in making that reduction, sir.

Mr. FORD. There has been no revision in the ratio?

General CHORPENING. No, sir; it is still 1.4 to 1.

CONEMAUGH RESERVOIR, PA.

Mr. RABAUT. We will take the next project, "Conemaugh Reservoir, Pa." This is a project with a total estimated Federal cost of $49,000,000. Allotments to date have been $44,668,700. The amount appropriated in fiscal year 1952 was $9,500,000. The tentative allocation for fiscal year 1953 was $4,200,000.

This project, as of the completion of 1952 fiscal year, will be 91 percent complete, and with the money requested for fiscal year 1953, the rate of completion will advance to 99 percent.

I note from the justification that several items will come into play with this money requested for fiscal year 1953. There is as much as $834,900 for land. It is less than was taken in 1952, where it is recorded that the allotment was $2,088,700. What is this item of $1,514,000 for Blairsville?

General CHORPENING. That is some work on the relocation of the Indiana Branch of the Pennsylvania Railroad at Blairsville.

Mr. RABAUT. You have an item for highways in the reservoir amounting to $380,400?

General CHORPENING. Yes, sir; that is also relocation.

Mr. RABAUT. You have $590,900 for clearing the reservoir. Is that correct?

General CHORPENING. Yes, sir.

Mr. RABAUT. You might give us a story on this project.

DESCRIPTION OF PROJECT

General CHORPENING. This is one of the most important flood-control projects for the protection of Pittsburgh. It has a very favorable benefit-to-cost ratio of 2.59 to 1. Even though the storage at this reservoir is a relatively small amount as against some of the others,

that storage is vital to keeping quick floods away from the Golden Triangle of Pittsburgh.

Mr. RABAUT. It is to take care of flash floods?

General CHORPENING. Yes, sir.

Mr. RABAUT. How much water is impounded?

General CHORPENING. As I recall it, about 274,000 acre-feet, which is small, but due to tremendous value of the improvements it protects, it is a most worth-while reservoir.

This project will be completed with the funds requested in fiscal year 1953.

INCREASE IN COSTS

Mr. FORD. How do you account for the $1,500,800 increase in cost of the project, General?

General CHORPENING. About half of that is due to price-level changes in the cost of the remaining work, and the remainder is due to structural and engineering modifications that we have had to make which we had not previously anticipated.

Mr. FORD. A good share of the funds requested for fiscal year 1953 are for purchase of lands; $834,900; an agreement with the Pennsylvania Railroad, $1,514,000; highways in the reservoir $380,400. How can you apply the increased cost for these items to Engineering News-Record Index?

General CHORPENING. I think in this fashion in connection with the agreement with the railroad, that is to pay them funds for certain construction that the railroad is going to do. So, whether we do the work or the railroad does the work, the price level changes come into play.

Mr. FORD. Engineering News Index is not applicable to the purchase of land, is it?

INCREASE IN LAND COSTS

General CHORPENING. No; but land values do go up and we have said we are using the Engineering News-Record Index as a criteria. Actually within the Engineering News Index there is no item for land. We have just assumed or made the assumption that land increases likewise would follow generally that same trend. In some places they go up a lot faster and some places not so fast, as is true with the Engineering News-Record Index.

Mr. FORD. At this point in the project, though, wouldn't you have pretty well firmed your negotiations for the purchase of the lands?

General CHORPENING. Actually on lands we had to modify our estimates by about $520,000 because we had to include some requirements to pay for crop damage and coal mine protection that we had not previously anticipated or included. Normally we would have probably acquired more of the land earlier in the project. However, we have had some considerable difficulty in land procurement on this project, and only within the last few months we had to finally resort to condemnation to clear up some land cases that we could not close on an out-of-court basis.

TOTAL INCREASE IN COSTS

Mr. FORD. During the testimony last year it was brought out that the cost had gone up $3,300,000 on this project. What is the total increase in cost of this project from its authorization?

General CHORPENING. The authorization which was based on February 1944 price levels was $14,097,000. Now as to whether or not there have been major modifications in the project since the time of authorization, I do not know.

Mr. FORD. On page 532 of the hearings last year, this colloquy occurred between Mr. Rabaut and Colonel Potter:

Is the cost going to be up more than $3,300,000?

Colonel POTTER. No, sir. We are getting close to the end of this project, as you will notice.

Now the cost is up another $1,500,000.

General CHORPENING. I extremely regret that these costs have gone up. At the time Colonel Potter was testifying he, I am sure, was confident that the estimate would be sufficient. However, unfortunately, it was not. As has been noted, sometimes on a project and it has happened quite often, we are able to decrease our estimate appreciably. Other times we are not so successful and some relocation costs, land costs, or some modifications do come up that increase the costs over what we had previously estimated.

Mr. FORD. When did you resort to condemnation in this case?

General CHORPENING. We resorted to condemnation, as I recall it, in either late November or early December of 1951.

Mr. FORD. When was the construction on the project initiated?

General CHORPENING. Could I supply that for the record? I do not recall for certain when it was.

(The information requested is as follows:)

Construction initiated, April 1949.

Completion scheduled for June 1954.

Last resorted to condemnations: Letter from Secretary of the Army to Attorney General dated January 16, 1952, recommended condemnation of 53,926 acres in Indiana and Westmoreland County.

RENTALS

Mr. FORD. In the funds requested for fiscal year 1953 there is an item of $19,500 for operator's quarters. Will those quarters come under this hoped-for rental directive from "higher authorities"?

General CHORPENING. Yes, sir.

Mr. FORD. The quarters you now have there or probably will have for fiscal year 1952 will likewise come under that directive.

General CHORPENING. All quarters that exist on projects of the Corps of Engineers, wherever they may be, will come under the directive or directives that may be issued.

Mr. FORD. How many families are occupying these quarters, and what kind of quarters are they?

General CHORPENING. I believe that there are proposed two sets of quarters for the operators in this project. The project is not close enough to a town to make it appropriate as we saw it to have the operators from a major project of this kind living away from it. It is a project where we should be ready at all times to operate the gates in case of a flash flood that might occur.

WORK TO BE DONE IN FISCAL 1954

Mr. FORD. Do you expect to request funds for fiscal year 1954 for this project?

General CHORPENING. I doubt that under the existing emergency and criteria in effect that we would ask for very much of the remaining funds. I believe that the remaining funds are all allocated reservoir development, except $11,300 for utilities at the reservoir. It is possible we might want to install the utilities.

DELETION BY BUREAU OF THE BUDGET

Mr. FORD. I see by the chart we have that we did request $11,300 from the Bureau of the Budget within ceiling more than what was authorized. And the budget deleted that. What kind of utilities in the reservoir were contemplated by $11,300?

General CHORPENING. The relocation of utility cost of $11,300 shown for after fiscal year 1953 and deleted by the Bureau of the Budget for fiscal year 1953 is for completion of sewer changes in the borough of Blairsville.

Mr. FORD. As I recall the previous testimony, this is in an isolated area.

General CHORPENING. It is about 40 miles from Pittsburgh and the roads leading to it are not good. However, it is, on the other hand, visited and has been visited by quite a number of people during the construction and I anticipate that it will be visited by many upon completion.

EAST BRANCH OF CLARION RIVER RESERVOIR, PA.

Mr. RABAUT. We are taking project entitled "East Branch of Clarion River Reservoir, Pa." This is a project with a total estimated Federal cost of $9,612,000. The allotments to date are $8,688,600. The amount appropriated in fiscal year 1952 was $2,000,000. The tentative allotment for fiscal year 1953 is $850,000. The project was authorized in the Flood Control Act of 1944. As of the close of 1952 it will be 90 percent completed and the 1953 money will advance the rate to 99 percent.

General, I notice that you spent considerable money for the embankment and spillway out of the 1952 funds, or allocated at least $1,590,700 of the fiscal year 1952 funds and for the fiscal year 1953 funds you have allocated $787,150 for that item. For permanent utilities and warehousing you had $66,000 in 1952 and $9,000 additional in 1953. For general clean-up and landscaping you had allocated $37,850 in fiscal year 1953 and for reservoir development you have allocated $5,000 in fiscal year 1953. You have allocated $38,300 for lands in 1952 and for relocations $4,500 in 1952 and engineering and design $13,500 for 1952 and $11,000 in fiscal year 1953. Is this work progressing well?

PROGRESS OF WORK

General CHORPENING. This work is progressing satisfactorily and with the funds requested this year it will be brought essentially to completion. The only portions remaining being those that probably

will not be requested until the end of the present emergency. This is entirely a flood-control project with a benefit-to-cost ratio of 1.36-to-1.

BENEFIT-TO-COST RATIO

Mr. FORD. There has been an increase in the benefit-to-cost ratio from 1.27 to 1.36. How is that accounted for?

General CHORPENING. The benefits have been reevaluated and since there has been no increase in the estimated costs of this project, that results in an increase in the benefit-cost ratio.

Mr. FORD. The new benefits, average annual benefits are estimated at $594,000. What are they attributable to?

General CHORPENING. I do not have the breakdown between the various benefits last year as against the present breakdown, but I would assume that we found that the flood-control benefits are greater due to the reappraisal of the property protected and that is based on a present-day survey of the situation.

REQUEST DELETED BY BUREAU OF THE BUDGET

Mr. FORD. The Corps of Engineers requested of the Bureau of the Budget $894,000 for this project for the fiscal year 1953. Was the item deleted by the Bureau, the one for the parking area?

General CHORPENING. That is correct, sir.

WILLIAMSPORT, PA.

Mr. RABAUT. We will take up the last project for the day, Williamsport, Pa. It is a project with a total estimated Federal cost of $15,000,000. The allotments to date have been $10,449,700. The appropriation for fiscal year 1952 was $775,000. The tentative allotment for fiscal year 1953 is $1,185,000. The authorization for this project was in the 1936 Flood Control Act. The percentage of completion as of the close of fiscal year 1952 will be 70 percent. The 1953 money would bring the rate of 78 percent.

BENEFIT-TO-COST RATIO

What is the reason for the decrease in the benefit-cost ratio from 2.5 last year to 2 this year?

General CHORPENING. Benefits have been reevaluated and the average annual flood-control benefits are now estimated at $1,490,000. It is still a most worth-while project, but apparently the benefits as figured earlier were not borne out by a recent survey.

LOCAL CONTRIBUTIONS

Mr. RABAUT. What is the amount of local contributions?

General CHORPENING. It is estimated at $1,803,000. Some of that is in contributed funds and the other in connection with providing lands, easements, and rights-of-way.

Mr. RABAUT. I note that the money for fiscal year 1952 is allocated to unit 5 levees, wall, and appurtenances in the amount of $775,000. From the 1953 money for the same purpose you will take $1,075,000, and you will also take $80,000 in 1953 for engineering and design;

$25,000 for railroad raising; and for minor improvements and general clean-up $5,000. What is the item of $25,000 for railroad raising?

General CHORPENING. That is raising the railroad over a completed portion of the levee. I believe the railroad is doing the work and that we are reimbursing them.

Mr. FORD. When will the contract for unit 5, under section II, be let?

Mr. BOUSQUET. That contract will be let in March of 1952.

CONTINUING CONTRACT

Mr. FORD. The funds appropriated for the fiscal year 1952 amounting to $775,000 will be for the initiation of a continuing contract?

Mr. BOUSQUET. That is correct.

Mr. FORD. The funds requested of $1,075,000 for fiscal year 1953 will be for the remainder of that continuing contract?

Mr. BOUSQUET. Yes, sir.

Mr. FORD. But that contract will not be awarded until March of 1952?

Mr. BOUSQUET. That is correct.

Mr. FORD. The item of $25,000 and the item of $5,000 are independent of the funds requested for section II?

General CHORPENING. The $25,000 and the $5,000?

Mr. FORD. Yes, sir.

General CHORPENING. Yes, sir. The $25,000 applies to section III. The $5,000 is applicable to all sections. Some portions of it might be utilized on section II.

WEDNESDAY, JANUARY 30, 1952.

HARTWELL RESERVOIR, GA. AND S. C.

Mr. RABAUT. We will take up the Hartwell Reservoir, Ga. and S. C.

This is a project with a total estimated Federal cost of $80,500,000. The allotments to date have been $342,600. There was appropriated for the fiscal year 1952 $172,600 for planning only. There is a tentative allocation for the fiscal year 1953 of $4 million. This project is just being initiated and is in the planning stage. It was authorized under the 1950 Flood Control Act.

General Chorpening, will you inform the committee as to the need for this particular project?

REPORT OF PROGRESS

General CHORPENING. The Hartwell Reservoir is a unit of the comprehensive plan in the Savannah River area, and the primary benefits are flood control and power.

The funds available to date have been entirely for planning. The definite project studies are now under way.

The Hartwell project is the logical choice as the next reservoir to be constructed in the Savannah River basin. The power to be developed by the Hartwell project is urgently needed for the rapidly expanding industries in the southeast. This is particularly true due to the present plans of the Atomic Energy Commission for the con-

struction of the hydrogen energy plant approximately 139 miles below the Hartwell Dam site on the Savannah River which will require approximately 1 million kilowatts.

Recent surveys of the Federal Power Commission and the Southeastern Power Administration indicated that the power requirements in North Carolina, South Carolina, and Georgia will greatly exceed the supply of power in the period 1950–60, unless additional plants are developed. The demand for power will be even greater under the additional load placed upon industrial concerns in the mobilization effort. This is particularly true in the vicinity of Hartwell, due to the hydrogen energy plant being constructed in the Savannah River valley below Augusta. The Hartwell project, with an installed capacity of approximately 180,000 kilowatts will help meet this critical power shortage by producing an average of 460,400,000 kilowatts a year.

BENEFIT-COST RATIO

This project has a benefit-cost ratio of 2.19 to 1; it is extremely well justified. We have essentially completed the Clark Hill Dam on the Savannah River which is about 45 miles downstream from the Hartwell site and this project will also add somewhat to the power capacity of the Clark Hill project.

POWER INSTALLATION

It will be noted that the power installation is three units at 60,000 kilowatts each, and the schedule calls for the first power unit to be placed on the line in December 1956.

The funds requested for 1953 will be utilized to initiate construction on the dam and appurtenances thereto, on land acquisition and reservoir clearings at the site of the dam, and on engineering and design, which of course would be heavy at the initiation of the project.

PROJECT REPORT

Mr. RABAUT. What is the status of the definite project report?

General CHORPENING. It is in process at this time; with the funds allocated to the project to date we have not yet had sufficient time to complete those studies.

Mr. RABAUT. You have not had sufficient time as yet?

General CHORPENING. We have not had sufficient time nor funds.

BENEFITS

Mr. RABAUT. What are the specific benefits?

General CHORPENING. The specific benefits are flood control, $2,220,000; navigation, $95,600; and power, $6,065,000, for a total of $8,380,600.

SPECIFIC COSTS

Mr. RABAUT. What are the specific costs?

General CHORPENING. The annual charges, based on the estimated cost of $80,500,000, will be $3,828,000.

FLOOD-CONTROL BENEFITS

Mr. RABAUT. Where will the flood-control benefits occur?

General CHORPENING. In the Savannah River Basin, in the entire area below the dam, with some flood-control benefits in the city of Augusta, and farther down. I can read a detail statement on that, if the committee would like.

Mr. RABAUT. Just supply that for the record.

(The statement referred to follows:)

Flood-control benefits in the amount of $52,000 estimated for the Hartwell project will accrue to low areas of North Augusta, S. C., Hamburg, S. C., and areas below Augusta, S. C., which are outside the levee. The damages to be prevented in South Carolina are both industrial and agricultural while those below Augusta are purely agricultural. Possible benefits in the amount of $2,000,000 may accrue to about 200,000 acres of the bottom lands between Augusta and Savannah. This information is based on a survey made for this office by the Soil Conservation Service.

ESTIMATED COST IN SURVEY DOCUMENT

Mr. RABAUT. What was the estimated cost of this project in the survey document?

General CHORPENING. There were two authorizations applicable to this reservoir: The flood control act of 1944, and the later act of May 17, 1950, and the later act was based on an estimated cost of $68,377,000.

Mr. RABAUT. What was it in the 1944 survey document?

General CHORPENING. The original document was House Document No. 657, Seventy-eighth Congress, and the general comprehensive plan at that time, which included a number of reservoirs, was estimated at $150,910,000. Now, whether or not this was specifically mentioned, I would have to check.

In House Document 657, Seventy-eighth Congress, which was the report on the comprehensive Savannah project, the Hartwell project was estimated at $33,687,000.

Mr. RABAUT. When was this estimate prepared and what price levels does it reflect?

General CHORPENING. The report was made in June 1943, and the estimate was based on prewar prices.

METHOD USED IN ESTIMATING

Mr. RABAUT. What methods have you used in bringing this estimated cost up to date in your various presentations to the Congress?

General CHORPENING. We have generally taken into account the rise in construction costs.

Mr. RABAUT. What is the height?

Colonel PAULES. The heighth of the dam is the same as at the time of authorization.

Mr. RABAUT. What is the increase in power estimate?

Colonel PAULES. The increase in power was about 1 percent: from 177,300 at the time of authorization to 180,000 kilowatts at the present time.

General CHORPENING. A very slight increase in the amount of power.

BASIS OF PRESENT ESTIMATE

Mr. RABAUT. What is the basis for the present-estimated cost?

General CHORPENING. The present-estimated cost is based on the information that we have been able to develop with the studies we have been able to make to date and based on present construction methods and the amount of power we now propose, 180,000 kilowatts.

Mr. RABAUT. These are just estimates of the cost?

General CHORPENING. We are not far enough into the project as yet to have real firm costs.

INCREASE IN ESTIMATED COST

Mr. RABAUT. What is the reason for the 4.6 million increase in the estimated cost?

General CHORPENING. Based entirely on the rise of construction costs since last year.

Mr. RABAUT. As indicated by what?

General CHORPENING. As indicated by the Engineering Cost Record Index.

MODIFICATION

Mr. RABAUT. Has this project been modified any since it was authorized, and if so, to what extent costwise?

General CHORPENING. Practically no change other than the small increase in power.

Mr. RABAUT. About 1-percent increase?

General CHORPENING. Yes, sir.

LAND

Mr. RABAUT. What is the land situation as to the total amount, type, and cost?

General CHORPENING. It is estimated that approximately 100,000 acres will be required for the reservoir, at a cost of $4,298,000, which sum includes the acquisition costs, engineering, and overhead. That would average about $43 per acre.

Mr. RABAUT. Is it all rural area?

General CHORPENING. The lands are almost entirely rural, on hills and slopes, predominantly covered with timber.

Mr. RABAUT. What is the relationship of the $43 average cost to the general price of land in the vicinity?

General CHORPENING. This estimate is based on what the present price of land is, as best we know it. It is possible that with more detailed investigation, that this may be changed considerably.

Mr. RABAUT. Does that estimate reflect the appraisal made by the Corps of Engineers in March 1951?

General CHORPENING. I cannot make a definite statement on that; I will have to check to see whether it does.

Mr. RABAUT. In the 1951 appraisal for 98,700 acres, the price was $4,657,000, and the estimated cost now for 100,000 acres is $4,298,000, so the estimate now is lower.

General CHORPENING. Yes. I take it that this report, this estimate is somewhat later, but I will have to check on that.

Mr. RABAUT. Please include how much land the original authorization comtemplated acquiring.

General CHORPENING. Yes.

(The information requested follows:)

The survey document was based on the acquisition of 66,000 acres which is the area of the flood-control pool. That acreage was exclusive of any lands necessary to be acquired due to severance but which are required in order to conform to accepted present-day real-estate practices for reservoir development and management. The present estimate of about 100,000 acres is obtained by use of the actual areas of the power pool times a factor of 1.8. This factor is the average of a number of similar projects constructed in the southeastern area. In connection with economic studies of the height of the dam a request was made to the Federal Land Bank of Columbia, S. C., in March 1951 for their appraisals at different elevations. The following information was obtained:

1. At elevation 640, the area is 66,550 acres with an appraised value of $2,548,500.

2. At elevation 660, the area is 98,780 acres with an appraised value of $4,657,000.

This information was for economic studies underway and were not obtained for purposes of land values. The acreage of about 100,000 acres at a cost of $4,298,000 included in the estimated project cost is for the cost of land plus acquisition costs. This amounts to about $43 per acre as compared to a cost of $35.36 per acre for all land acquired to date at Clark Hill. The increase in the average cost per acre at the Hartwell project is due partly to increased land values, but largely to damages and higher land values in and about Clemson.

MAPS

Mr. RABAUT. What type of maps are available for the reservoir area?

General CHORPENING. I do not have direct knowledge on that, but for some parts of the country we would not have very much mapping.

Mr. RABAUT. You will supply the proper answer for the record.

General CHORPENING. Yes, sir.

Mr. RABAUT. What maps did you use in making the relocation estimates in determining the reservoir area and capacity?

General CHORPENING. Maps available, which were, probably, as in so many cases, not too up to date and not too definitive.

Mr. RABAUT. You will supply more detailed information?

General CHORPENING. Yes, sir.

(The information requested above follows:)

The Hartwell pool area was mapped in the early 1940's using available AAA photographs. Although the maps are considered satisfactory for use in studies of survey scope, they are not adequate for detail studies or for land acquisition. These maps were used as a basis for preparing estimates of the area at the reservoir capacity. Relocation estimates are based on plans and profiles furnished by the various railroads and highway departments or from surveys made by district personnel. No maps of the reservoir area other than those mentioned above are available.

RELOCATIONS

Mr. RABAUT. What specific relocations are involved here, their cost and the status of their negotiations?

General CHORPENING. 2.5 miles of railroad to be relocated below the river, at Hartwell, at an estimated cost of $1,362,000; and, 32.3 miles of highway; State highway, 19.6 miles, and county and local highways, 12.6, at an estimated cost of $8,443,000; utility power lines, Georgia Power Co. and Duke Power Co., $1,410,000, for a grand total of relocations, $11,215,000.

Mr. RABAUT. What is the status of negotiations?

General CHORPENING. We have not started negotiations as of this time; there have been some informal investigations, but until funds are available, we do not do any real negotiating.

BASIS OF COST

Mr. RABAUT. What is the basis for the cost estimate?

General CHORPENING. The basis for the cost estimate is the miles involved and the nature of the roads and the railroads and based pretty generally on our experience and knowledge of what it costs to build them.

Mr. RABAUT. This is just survey data?

General CHORPENING. Plus, I think, some additional information that we have been able to secure with the funds that we have had to date.

PROVISION FOR LOCAL PLANTS

Mr. RABAUT. What provisions have you made for the Portland Shoals plant of the Duke Power Co.?

General CHORPENING. I do not have that specific information before me. I can supply it.

(The information requested is as follows:)

The Portland Shoals development, which is a low-head run of river plant, will be drowned out by the construction of the Hartwell project, and in the planning report the value of $1,000,000 was assigned to this development. The Federal Power Commission on February 2, 1952, estimates the value of the plant at $1,750,000. This increase is largely due to the installation of all new equipment in 1948. The $1,000,000 is included in the present estimated cost.

CLEMSON COLLEGE

Mr. RABAUT. What will be the effect of the reservoir on Clemson College, and what provision have you made for the protection of this area?

General CHORPENING. I do not have direct information on that; I will have to supply that.

Mr. RABAUT. Yes; supply that, and also include the present estimate for the total cost of these last two items, the power plant and Clemson College.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

Tentative studies based on surveys made in 1951 at Clemson indicates that a low short earth dam with a pumping station will have to be constructed below the stadium which was built in a natural draw and hollow. It will be necessary to construct one or two low earth dams to form constant-level lakes in the housing areas facing the ravine. Provisions will be made for a new fresh-water pumping station and possibly a sewer plant. At the present time raw sewage from Clemson is discharged into the river. The permanent buildings at the college are built well above the proposed flood pool. Several conferences have been held with the college staff to determine the effect of the Hartwell project on the college property, and remedial steps are to be taken. The staff has been very reasonable and cooperative in these studies. The estimate of cost of the Portland Shoals development and work at Clemson College is about $2,250,000. This cost is included in the estimated cost. This does not include any cost of land at Clemson. The cost of land acquisition at Clemson is included in our estimate of land acquisition for the Hartwell project.

RELATIONSHIP OF HARTWELL AND CLARK HILL RESERVOIRS

Mr. RABAUT. What is the relationship between the Hartwell and Clark Hill projects, both power and navigationwise?

General CHORPENING. Hartwell is upstream from Clark Hill. Powerwise, the Hartwell Reservoir will serve to firm up the power at Clark Hill.

Likewise, the storage of water, with regulation of the flow, it is estimated will serve to increase the navigation depth on the river approximately 1 foot.

LABOR SUPPLY IN AREA

Mr. RABAUT. What has been the effect of the Atomic Energy Commission construction program in this area on the labor supply available to the Corps of Engineers?

General CHORPENING. The effect, of course, has been that a shortage of labor has been noted in that vicinity. We had some difficulty at the Clark Hill Dam; as to whether, as time goes on, that condition may smooth out, I do not know; it depends upon how long and how heavy the construction schedule is at the Aiken plant.

Mr. RABAUT. What provisions have you made for labor at Hartwell?

General CHORPENING. We have made no provisions up to this time.

Mr. RABAUT. Because you are not ready?

General CHORPENING. We are not ready; we have no construction funds appropriated as yet.

Mr. RABAUT. Does the estimate take into consideration any increase because of labor costs?

General CHORPENING. Only insofar as the application of the Engineering News-Record Index, that part of the Index affecting labor prices. Now, whether or not in applying the factors, they have taken into account the situation that presently exists with respect to shortage of labor, I do not know. It depends entirely on how soon we would get into construction, but I believe if we get into construction next year there might be some additional effect; I do not know about that, and we would have to analyze at that time, the labor situation. Those are situations that come and go, and it could be that it would actually work in our favor, if the construction of the hydrogen-energy plant should be completed, it might be in our favor.

INCREASE IN POWER INSTALLATION

Colonel PAULUS. Last year you told the committee that the power installation would be 177,300 kilowatts, and now you say it will be 180,000. How do you explain this change?

Colonel PAULES. The original 177,300 kilowatts was changed to 180,000 kilowatts, since this would simplify design and manufacture of the units.

General CHORPENING. Now it is estimated to install three units of 60,000 kilowatts each.

Mr. RABAUT. How did you derive the figure in the first place of 177,300?

Colonel PAULES. That was arrived at in the first place based upon the dependable capacity which could be produced at the site.

MOSQUITO CONTROL

Mr. RABAUT. What provisions have you made in the estimated cost for mosquito control?

General CHORPENING. I do not think there is anything included in the construction estimate for mosquito control.

(The substantiating statement appears as follows:

The Public Health Service along with the Savannah district made a survey during the summer of 1951 to determine the malaria potential of the general area. The report of the Public Health Service has not been received to date; however, present studies indicate that mosquito control will not be a serious problem. It is presently planned to clear the entire reservoir area down to the draw-down elevation. Charges for larviciting and other mosquito-control measures are included in the annual operating cost.

(Off-record discussion.)

Mr. DAVIS. Will you give us what information you have—off the record, if you wish—concerning the AEC hydrogen-energy plant.

(Off-record discussion.)

Mr. DAVIS. I gather the impression, General, that the estimate of total cost at this stage would have to be considered unreliable.

General CHORPENING. It is as reliable as we can make it with the data we have had available to this time in preparing the estimates. Obviously, if we had more time, as we go ahead with planning funds—and I believe that we have just recently been allotted additional funds—the first funds were appropriated last year when the President certified this project, for planning in 1951.

Mr. BOUSQUET. For $170,000.

Mr. DAVIS. With your information rather indefinite, are you going to be ready to start construction during this coming fiscal year?

General CHORPENING. At the present time, with the present funds that are available to us, we are pushing as rapidly as possible to firm up the necessary engineering decisions which would enable us to advertise—at which time, Mr. Bousquet?

Mr. BOUSQUET. The first contract would be advertised in August; that would be for clearing and grubbing, for project offices, for a laboratory, and for water supplies. And then other contracts would be awarded in September for access highways and railroads, and starting the embankment work.

Mr. DAVIS. Will the information which is now very indefinite be definite by that time?

General CHORPENING. We have sufficient definite information so that we could go ahead with these portions of the project—that is, there are no further questions to be resolved as to the height of the dam, as to power installation, or as to the exact location of the structure.

Those decisions are made, and now it becomes a matter of refining those in determining the details of the structure itself so that we may proceed with these preliminary contracts.

PROJECT REPORT

Mr. DAVIS. When did you indicate when you expected to have the definite project report ready?

General CHORPENING. I did not give a definite date as to when we would have it.

Mr. DAVIS. The reason I asked the question is to find what that possible date will be in relation to the dates that Mr. Bousquet just gave us, especially since the corps has intimated to the committee several times that construction is not started on a project until the definite project report is completed.

General CHORPENING. I would say that sufficient portions of the definite project studies can be completed so that on those portions we will be able to go ahead with the contracts. The definite project studies will not be completed until, I would say, sometime later this next year or the following year.

STATUS OF PROJECT REPORT

Mr. DAVIS. This puts the project outside the pale as far as the recommendations of this committee's counsel last year go; does it not?

General CHORPENING. I do not recall the recommendations to which you refer.

Mr. DAVIS. Did not the counsel's report contained in the printed hearings make some recommendations last year, in which the Corps of Engineers expressed agreement and willingness to go along?

General CHORPENING. That was in connection with planning reports which we are now preparing and will have submitted to the committee on or before March 1, 1952.

Mr. DAVIS. Am I wrong in my recollection that General Pick said there was to be a definite project report completed before any funds were allocated for construction?

General CHORPENING. It is desirable that the definite project studies all be completed if time permits. If they have been completed, then the estimate is as firm as we can make it, prior to going into construction.

However, the entire completion of those studies is not essential to starting construction on a project. As a matter of fact, if the definite project studies are completed and then the project lies for some years before construction is undertaken, then some portions of the effort have been wasted, because conditions do change, and quite rapidly in some places.

Mr. DAVIS. We do not appear to be faced with the alternative of having it lay idle for some time. I think it was the consensus of this committee that we certainly were going to have these studies ready so that we would know what the Corps was going to do before the funds for construction were allocated, as well as having a thorough economic justification for the project. That evidently is not going to be true on this project.

EXPANDING INDUSTRY

The statement concerning the expanding industrial growth in this area, requiring this additional power developed, brings to my mind the experience we have had in the Northwest. The aluminum industry was encouraged to go to the Northwest because power was available, and now this committee is besieged each year with additional requests for new power projects in order to serve the aluminum industry. How much of that are we going to get in this area?

Colonel PAULES. Generally, based on information which we have received from the marketing agency, the power requirements in that region, which includes the TVA area, are expected to increase in the period 1954–57 at a rate of about 1.5 million kilowatts per year. The power installation at Hartwell is about 10 percent of 1 year's growth for the region.

General CHORPENING. The marketing agency to which Colonel Paules refers is the Southeastern Power Administration.

Mr. DAVIS. Is the expanding industry that of the natural growth of this area, or is it just industries that are being lured there by the prospect of federally developed power?

General CHORPENING. It is hard to tell which comes first.

Mr. DAVIS. That is exactly the question with reference to the aluminum industry in the Northwest that I am using as an analogy; is it not?

General CHORPENING. Generally, industries of any kind will seek the places in the country where all conditions, climate, labor supply, power, and other things are best adapted to the industry.

NEW PROJECT ON FLOOD-CONTROL AREA

Mr. DAVIS. This is the only new project, justified on the basis of power in the flood-control appropriation. In other words, flood-control benefit, would be considered a minor part of it.

General CHORPENING. Yes, sir.

Mr. DAVIS. How did this particular project happen to be selected for construction funds this year?

General CHORPENING. As to the exact reasons for its selection, I am not aware, other than the over-all consideration that the power needs in this particular area transcended the needs in other possible locations.

Mr. DAVIS. The decision, then, actually was made by some agency other than the Corps of Engineers?

General CHORPENING. Yes. I can say in answer to your question that this was recommended to the Bureau of the Budget by the Corps of Engineers.

Mr. DAVIS. Among other similar new projects?

General CHORPENING. There were other new projects recommended. This was the one multiple-purpose project under flood control; this was the only one of that type recommended within-ceiling.

Mr. DAVIS. And you are now justifying more money than you asked for within-ceiling?

General CHORPENING. We asked for $2.5 million within-ceiling, and $1.5 million overceiling.

Mr. DAVIS. Your answer as to this being the only one under flood control is differentiated from Toronto as being a different type?

General CHORPENING. Toronto is almost entirely flood control; Hartwell is multipurpose.

RATE OF CONSTRUCTION

Mr. FORD. General, was it the consensus of the Corps of Engineers that an appropriation of $2.5 million for the fiscal year 1953 would be the best engineering rate of construction that you could follow?

General CHORPENING. No, sir. It again goes back to the ceilings that are placed upon us by the budget, and the amount that we considered was out of the ceiling that was given to us that we could properly allocate here and still make proper progress on other projects.

Mr. FORD. What part of the project would you have deferred if you had not been allocated the additional $1.5 million that the budget included in the Corps of Engineers' deletion?

General CHORPENING. Since the amounts of either $2.5 million or $4 million are being utilized for what are principally preliminary activities, and a small start on the dam, which was mentioned, and a lesser amount of work done on these activities, actually it would be possible, since the amounts are relatively small in any event, it would be possible to pick up that amount probably in later years and we would still place power on the line by December of 1956.

Mr. FORD. In other words, the appropriation of $2.5 million, in the judgment of the Corps of Engineers, would not have necessarily slowed up the completion date and might well have given you sufficient funds to go ahead with the completion of this project; is that correct?

General CHORPENING. It would have probably necessitated some acceleration or expedition of work on items which might have increased the cost. Our belief, when we asked for the $2.5 million, was that it would have put power on the line in April 1957.

Mr. FORD. And the appropriation of $4 million this year will not?

General CHORPENING. The $4 million in the budget will set it up to December of 1956.

Mr. FORD. And the $1.5 million will make that much difference in a $80 million project?

General CHORPENING. It well might. Of course, in a period of 5 years there are other conditions that might arise which would affect any schedule now established and throw it considerably out of gear.

Mr. FORD. But there are other factors which might throw it considerably out of gear, such as lack of necessary materials, weather conditions, and other elements?

General CHORPENING. That is right; but by our making an appraisal of the situation, based on what we can see now, that was our conclusion.

BENEFIT-COST RATIO

Mr. FORD. Is the benefit-cost ratio in this project one that stands entirely on its own, or it is one that results from a combination with any other projects?

General CHORPENING. We are taking credit in the power benefits for the upstream regulation given to the Clark Hill Dam by this reservoir, thus enabling us to produce more power at the Clark Hill structure than we would have been able to do without Hartwell. That is only $600,000 of the $6 million estimate of the power benefits, or about 10 percent.

Mr. FORD. Does this regulating aspect of Hartwell have any effect on the benefit-cost ratio of Clark Hill?

General CHORPENING. In the benefit-cost ratio, we are giving this credit to Hartwell, because the construction of Hartwell makes that additional power at Clark Hill available. Were it not for Hartwell, the additional power there would not be available.

CLARK HILL COMPLETION DATE

Mr. FORD. When will Clark Hill be completed?

Colonel PAULES. Power will be on the line in October 1952. That is the first unit. The last unit at Clark Hill is scheduled for October 1954.

STEAM PLANTS

Mr. FORD. According to the justifications, on page 339, there is this statement:

> Recent surveys of the Federal Power Administration and the Southeastern Power Administration indicated that power requirements of North Carolina, South Carolina, and Georgia will greatly exceed the supply of power in the period 1950–1960 unless additional plants are developed (hydro- and steam-electric).

Does that indicate the contemplation of the construction of Federal steam plants to firm up the power of Clark Hill, Hartwell, and other such projects?

Colonel PAULES. No, sir; it does not.

Mr. FORD. Who will construct them?

Colonel PAULES. They would be constructed by the private utilities in the area, or by public utilities and such small construction as is done in some places to supply the REA requirements.

Mr. FORD. Are such steam electric-power plants to compete with Hartwell and Clark Hill?

Colonel PAULES. It is not a question of competition, but a question of the supply of needed power, both will be required. The steam electric power will be more expensive than either Clark Hill or Hartwell, but, as was pointed out a little while ago, the power from Hartwell will only serve about 10 percent of 1 year's growth; and, for that reason, the other 90 percent must be supplied with more costly steam power, or from other hydrodevelopment.

OTHER FEDERALLY SPONSORED PROJECTS

Mr. FORD. What are the other federally sponsored projects, such as Clark Hill and Hartwell, anticipated in this area?

General CHORPENING. There are other projects on the Savannah River which have power potentialities, but the only ones authorized for construction at this time are Clark Hill, which is nearing completion, and Hartwell.

However, in the general area there is the Howell Mill Shoals project, which is authorized, and also the upper Columbia project on the Chattahoochee, which we discussed earlier in the hearings.

Mr. FORD. What other projects which are not authorized but which show potential power-producing possibilities?

General CHORPENING. In the Savannah Basin there are Goat Island and Middleton on the Savannah River; the Chattooga, on the Chattooga River; Tallow Hill and Anthony Falls, on the Broad River, and Newry-Old Pickens on the Keowee River.

Mr. FORD. Are all of those, projects which will undoubtedly be submitted, in an omnibus rivers and harbors and flood-control bill in the near future?

General CHORPENING. We do not contemplate that they will be.

HOUSING FACILITIES

Mr. FORD. Do you anticipate, General, the construction of housing facilities for those who will be working at the project?

General CHORPENING. We do not have a definite recommendation from the field on that, as yet. I sincerely hope that we can avoid such an installation, and it will only be done if, as indicated earlier, it is found that it is in the interest of the Government to so do.

Mr. FORD. In other words, you have not firmed up your estimates, or analyzed them enough to know whether such facilities might be required?

General CHORPENING. Not to my knowledge; no. I would have to check with the field on that. It is possible that the district engineer has concluded in his mind one way or the other. I can do that and insert it in the record, if you like.

Mr. FORD. I think it might be well to have such information, if you can get it without too much trouble.

(The information requested follows:)

No construction housing is planned at Hartwell.

BENEFIT-TO-COST RATIO

Mr. FORD. The benefit-to-cost ratio, as included in the record last year on page 596, was 2.17 to 1, and this year it is 2.19 to 1. Admitting that is a very slight change, what has brought that revision about?

General CHORPENING. A reevaluation of benefits has been made since that time, as well as the consideration of this cost-benefit ratio we now give, which is our best judgment as of the time that we prepared our justification sheets.

Mr. FORD. The 2.19 to 1 benefit-to-cost ratio is based on the estimated cost of the project at $80,500,000?

General CHORPENING. Yes, sir.

FALL RIVER BASIN, S. DAK.

Mr. RABAUT. We will turn now to Fall River Basin, S. Dak.

This is a project with a total estimated Federal cost of $4,479,000; the allotments to date have been $2,409,300; the appropriation for the fiscal year 1952 was $400,000, and the tentative allocation for the fiscal year 1953 is $427,000.

The project was authorized under the 1941 Flood Control Act. As of the close of the fiscal year 1952 the project will be brought to 54 percent completion, and with the money requested for 1953 the rate would rise to 63 percent.

We will be glad to have a general statement from you, General Chorpening.

DESCRIPTION OF WORK

General CHORPENING. This is a local flood protection project, consisting of two small earth-filled dams for the protection of the city of Hot Springs, S. Dak.—as well as improvement of the channel through the town. The channel improvement work has been done in previous years, and the work is now underway on the construction of the Cold Brook Dam and Reservoir. The funds requested for the fiscal year

1953 will be entirely applied toward the completion of the Cold Brook Dam and Reservoir.

Mr. KERR. This work is on projects near Hot Springs, S. Dak.?

General CHORPENING. Yes; in the Fall River Basin.

Mr. RABAUT. What is the benefit-to-cost ratio?

General CHORPENING. 1.63 to 1.

MAINTENANCE OF PROJECTS

Mr. FORD. General, I notice in the justification the statement that the Hot Springs channel improvement has been completed and formally turned over to local authorities for maintenance. When you complete the Cold Brook Dam and the Cottonwood Springs Dam, will they be turned over to local authorities for maintenance?

General CHORPENING. No; they will be maintained and operated by the Corps of Engineers.

BENEFIT-COST RATIO

Mr. FORD. Last year the benefit-cost ratio was given as 1.45 to 1; this year it is given at 1.63 to 1, and there has been no change in the cost of the project. How do you account for the change in the ratio?

General CHORPENING. The benefits have been reevaluated since that time.

Mr. FORD. What benefits in that area would bring about that situation?

General CHORPENING. These benefits were reevaluated in August of 1951 and were based on the value of the land and improvements at that time.

CONTINUING CONTRACTS

Mr. FORD. The $427,000 requested for fiscal year 1953 is for a continuing contract which was started with funds granted in the previous year?

General CHORPENING. Yes, sir.

Mr. FORD. Will the $99,700 for years after this fiscal year 1953 be for the same continuing contracts?

General CHORPENING. No; this completes the continuing contract.

Mr. FORD. Do you have to have the money, the $99,700, to make the Cold Brook Dam operable?

General CHORPENING. No, sir.

Mr. FORD. According to the testimony last year you were going to request for fiscal year 1953, $651,000. This year you ask of the budget $427,000, which was the amount included in the budget. What happened to the rest of it?

General CHORPENING. It was concluded that this amount would be sufficient to complete the present continuing contract.

SCHEDULE OF PAYMENTS

Mr. FORD. What is the schedule of anticipated payments in coming years?

General CHORPENING. For 1954, $224,000; in 1955, $525,000; and in 1956, $893,700.

HOT SPRINGS

Mr. FORD. Will the Hot Springs channel improvement and Cold Brook Dam and Reservoir be operable without the construction of the Cottonwood Springs Creek Dam and Reservoir?

General CHORPENING. It would be operable, but the full benefits of improvement will be limited.

Mr. FORD. There will be substantial benefits, however, without the construction of the Cottonwood Springs Creek Dam and Reservoir?

General CHORPENING. There will be partial benefits.

FORT RANDALL RESERVOIR, S. DAK.

Mr. RABAUT. The next project is the Fort Randall Reservoir, S. Dak. This is one of the big projects, with a total estimated Federal cost of $197,300,000. There have been allocated to date $120,556,700, and the amount appropriated in fiscal year 1952 was $32,699,000.

The tentative allocations for the fiscal year 1953, $37,500,000.

The project was authorized in the 1944 Flood Control Act. The percentage of completions are set forth on page 348, indicating 49.6 percent completed, as of the close of fiscal year 1952, and the money requested at this time would bring that rate to 80 percent.

While the project has been explained to the committee many times, nevertheless you should tell us something about what has been accomplished to date and what you expect to accomplish with the money secured in 1952, $32,699,000, and what you expect to do with this $37,500,000, if Congress sees fit to give it to you.

General CHORPENING. With the funds available in 1952, as is indicated in the justification sheets, we have proceeded on a coordinated schedule with various phases of the project—earthwork on the main dam, the spillway, procurement of the generator, construction of the powerhouse structure, and the penstocks and surge tanks.

The year 1953 is the peak year, the crucial year for construction of this project, in that with the 1953 fiscal year funds we propose to make closure of the dam in the summer of 1952. It is essential that we obtain the funds in the full amount requested, because the closure operations, when started, must proceed without delay to complete them on the schedule that has been set up.

It will be noted that the power installation here, which consists of eight units for a total of 320,000 kilowatts, is scheduled for the first unit to go on the line in November of 1953. The other units are to follow at intervals with the last unit to be installed in March of 1956.

INCREASE IN ESTIMATED COST

Mr. RABAUT. What is the reason for increasing the estimated cost $8.1 million?

General CHORPENING. That is a reevaluation of remaining work, based on experience that we have had and on the over-all increase in prices which indicated that additional amount will be required to complete this project.

Mr. RABAUT. That is above the normal increase price?

General CHORPENING. Yes. On the other hand, with the great amount of work remaining in connection with the powerhouse struc-

ture, on the equipment therein, as I explained the other day, we have escalator clauses in the contracts. This provides a realistic up-to-date estimate.

Mr. RABAUT. Last year Colonel Potter informed the committee that this project would be 51 percent complete at the close of 1951. Now you say it is only 37 percent complete, with all of the funds having been obligated. How do you explain this discrepancy, as well as the difference in the two completion estimates for 1952?

General CHORPENING. There has been some decrease in the percentages indicated, due to the fact that it is based on a straight arithmetical basis and since the cost has increased, the percentage would obviously decrease.

Mr. RABAUT. A relationship of $8 million to $197 million would never make a reduction like that, would it?

General CHORPENING. These percentages are straight arithmetic percentages of the amounts appropriated against the estimated cost, and if there was that much difference there was an arithmetical error made. We can work that out.

Mr. RABAUT. Supply the information giving the proper relationship in the record in answer to the question.

General CHORPENING. Yes, sir.

(The information requested follows:)

The figure reported on the current justification sheet for Fort Randall Reservoir for percentage completion through fiscal year 1952 is in error and should read 61 percent. The change in percentage from that reported on last year's justification sheet is accounted for by the fact that the project estimate has increased and the full amount approved by the Budget for fiscal year 1952 was not made available to the project under the fiscal year 1952 Appropriation Act.

FIRE PROTECTION

Mr. RABAUT. Explain for the record the additional fire protection of $18,000.

General CHORPENING. We have a town at the site of the dam and must maintain a fire department to protect the Government's installation there.

URGENCY OF PROJECT

Mr. FORD. General, on page 349 of the justifications, the statement certainly does not seem to indicate there is the urgency for this project that appears for others, according to the justifications of this project, as far as the facts are concerned. That statement reads:

The Federal Power Commission and the Bureau of Reclamation concur in the view that additional generating capacity will be needed in the area at the time power can be made available and that energy from the ultimate installation will be required in the area soon thereafter.

Compared to the other ones, such as we had for Hartwell, this is Caspar Milquetoast language.

General CHORPENING. There does not exist in this area an atomic energy plant with the connotation that Hartwell has, but those whose responsibility it is, as stated here, to look into the long-range power requirements of the area, have so stated—and last year I believe they appeared before the Senate Committee on Appropriations and supported the need for power at this site.

EFFECT OF REDUCED APPROPRIATION

Mr. FORD. Last year the appropriation was cut by Congress $2 million from the request in the budget. What was the effect of that reduction?

Colonel PAULES. The cut in the appropriation was a transfer of funds to initiate the Gavins Point project.

Mr. FORD. What adverse effect did that reduction have on the work on the project?

General CHORPENING. The direct adverse effect would be difficult to pinpoint, with the exception that it imposes a much more difficult job on those who are responsible for planning toward the closure, which comes this year, which is vital, once it has been started.

Mr. FORD. How far can power from this project be efficiently and economically transmitted?

Colonel PAULES. Approximately 300 miles.

TRANSMISSION FACILITIES

Mr. FORD. Have transmission facilities been set up for the transmission of the power?

Colonel PAULES. The Bureau of Reclamation is building the transmission facilities for carrying the power.

General CHORPENING. It should be kept in mind that while it is practically feasible to transmit power only that far, ofttimes by displacing power it is feasible to send power many times that distance—I think you understand what I mean by displacment.

TOWN AND ACCESSORY FACILITIES

Mr. FORD. Last year there was included in the record a rather detailed chart showing the funds you were requesting for the town and accessory facilities. Can you provide for the record a statement showing the revenues that were derived last fiscal year, from operators' quarters, and also the same figures for the dormitory and hotel, under division B, or whatever revenue was derived from the family units, dormitory housing and trailer facilities.

(The information requested follows:)

Item	Capital investment	Maintenance and operation costs, fiscal year 1951	Revenue collected, fiscal year 1951
Family quarters	$3,625,500	$33,760	$146,450
Dormitory hotel	494,400	1,400	13,800
Shopping facilities	408,800	4,740	43,125
Streets, utilities, etc	2,117,000	93,140	66,318
Dormitory housing	627,000	29,010	15,020
Trailer facilities	194,700	21,255	4,500
Mess halls	53,000	1,000	9,950
Community recreation building	150,400	1,200	4,210
Theater	127,300	4,680	5,010
Public garage	84,000	500	2,500

The theater is operated under concession agreement in the same manner as other commercial facilities at the town site. Bids are received for operation of this theater on basis of percentage on gross income to be paid to the Government. The award is made to the bidder offering the highest return to the Government.

Mr. FORD. Maybe you can answer this question offhand: What is the policy of the Corps of Engineers for handling, for example, a theater, which in this instance cost $127,300? Do you normally rent that out to a motion-picture outfit and get a rental on it, or do you normally run it and charge fees for the admission to the theater?

General CHORPENING. The handling of it will vary. This one is handled on a concession basis.

Mr. FORD. Is it a permanent theater installation?

General CHORPENING. I do not believe it was built as a permanent structure; I think it was a temporary town-site building.

Mr. FORD. It cost $127,300. Do you have any figures showing the returns the Federal Government got from the operation of that project?

General CHORPENING. It would be rather difficult to show the returns for keeping up morale on the project, in dollars and cents.

(Off-record discussion.)

SCHEDULE OF PAYMENTS

Mr. FORD. What is the future schedule of expenditures on this project?

General CHORPENING. For the fiscal year 1954, $25 million, and for fiscal year 1955, $14,243,300.

OAHE RESERVOIR, S. DAK.

Mr. RABAUT. We will turn now to Oahe Reservoir, S. Dak. This is a project with a total estimated Federal cost of $285,500,000; the allotments to date have been $13,370,000, and the amount appropriated for the fiscal year 1952 was $3,770,000.

The tentative allocation for the fiscal year 1953 is $3,500,000.

The project was authorized in the 1944 Flood Control Act. The percentage of completion, as of the close of fiscal 1952 will be 5 percent, and with the money requested for 1953 will bring the rate to 6 percent.

Will you tell us what you did with the money received in the 1952 appropriation, and what you intend to do with the amount requested?

General CHORPENING. For 1952 the funds are being utilized primarily on earthwork on the right abutment of the dam. Some work was done on the sheet-pile cut-off wall, and engineering and design. The remaining portion of the funds, a small amount, was utilized for land acquisition and work on the circuit breakers and transformers.

Mr. RABAUT. What do you intend to do with the money requested for 1953?

General CHORPENING. For fiscal year 1953 we will continue work on the dam at stage II, and on the sheet-pile cut-off wall; initiate work on the intake towers, and upstream tunnels and shafts; continue work in connection with the circuit breakers and transformers; further the land-acquisition program; and continue work on the plans and designs.

INCREASED COST

Mr. RABAUT. What is the explanation for the $39.6 million increase in the estimated cast?

General CHORPENING. There are two principal items which make up the increase and a third which is much smaller. The largest one is

the result of the over-all increase in construction costs and amounts to $29,400,000.

This project has had very little funds allocated to it. In view of the experience that we have had, and a complete reevaluation of the various items which have increases that have occurred in the past 2 years, we were convinced that we should increase the cost based on over-all increases in construction costs.

The remainder of the increase in cost is primarily due to the increase in the size of the two units, which it is proposed initially to install from 70,000 to 85,000 kilowatts each, powerhouse for three units, and penstocks for the installation of 5 units totaling 425,000 kilowatts instead of 350,000 kilowatts.

There is also a slight increase in costs, due to conditions that we have encountered whereby we are going to have to do more construction on the sheet-pile cut-off wall than had been previously contemplated.

CONTINUING CONTRACTS

Mr. RABAUT. Will you furnish for the record what continuing contracts are now in effect that will be continued with the 1953 funds?

General CHORPENING. Yes.

(The information requested follows:)

Continuing contracts now in effect which will be continued with 1953 funds:

1. Sheet-pile walls.
2. Circuit breakers, schedule B.
3. Transformers, schedule C.
4. Hospital facilities.

LAND ACQUISITION

Mr. RABAUT. What is the land picture?

General CHORPENING. The estimated acreage required is 342,400 acres of rural lands; and the estimated total cost of lands and improvements is $18,832,000. I have that broken down between the various types, which I can insert in the record.

(The statement referred to is as follows:)

Type of land	Acreage	Cost, including improvements
Rural:		
Woodland	90,000	$2,970,000
Agricultural	73,000	5,621,000
Pasture	91,000	3,003,000
Meadow	63,000	2,772,000
Islands and sandbars	25,400	279,400
Total	342,400	14,645,400
Urban:		
Residential		1,711,600
Commercial		2,475,000
Total		18,832,000

INCREASE IN OVER-ALL COST

Mr. FORD. General, are there any new factors involved in this project that would warrant continuation, despite the fact that you have a $39,600,000 increase in price?

General CHORPENING. There are no new factors beyond those presented quite fully by Colonel Potter last year.

Mr. FORD. As I recall the testimony last year, there was an increase of $11 million at that time in the over-all cost.

General CHORPENING. That is correct, sir.

Mr. FORD. Making the total increase $50,600,000 in a 2-year period?

General CHORPENING. That is correct, sir.

Mr. FORD. According to our information, the Corps of Engineers requested $6,230,000 for this project for the fiscal year 1953, all within-ceiling. The appropriation, as approved, is $3,500,000. Will that reduction materially affect the situation?

General CHORPENING. Not materially. It just means that we will progress at a much slower rate.

Mr. FORD. Last year Colonel Potter indicated that the Corps of Engineers would request for this project, for the fiscal year 1953, $15 million. There is quite a difference between what you anticipated then and what you have requested in the budget this year.

General CHORPENING. All of those statements that we make as to what we propose to request in future years are based on two assumptions. First, that we will have a ceiling given to us by the Bureau of the Budget that would enable us to include what we believe would be the proper amount for a good construction schedule. Secondly, it is based on a normal situation existing in the country and in the world.

I believe I have talked about that before in connection with other projects, although I my not have presented the over-all picture.

CIRCUIT BREAKERS

Mr. FORD. According to the justifications, you are requesting funds for circuit breakers at an early stage in the construction of the project. Why do you get into that at this point?

General CHORPENING. The transformer is needed for power during construction. The circuit breakers are needed at Oahe to sectionalize the long transmission line between Garrison and Fort Randall. Upon completion of the Oahe project, these power items will be a part of the Oahe switchyard.

CONTINUING CONTRACTS

Mr. FORD. Will the continuing contracts which you are anticipating be of the same general nature as has been described earlier in the hearings?

General CHORPENING. Yes, sir.

Mr. FORD. With escalator clauses for the electrical works and firm unit prices for the construction works?

General CHORPENING. There are no new continuing contracts contemplated with the funds requested for the fiscal year 1953 for power equipment. The amounts proposed are for existing continuing contracts initiated with fiscal-year-1952 funds. The other large amounts are for stage II earthwork and the Sheetpile cut-off wall.

DEFINITE PROJECT REPORT

Mr. FORD. Do you have your definite project report or studies completed, or did you prior to the submission of this project last year?

General CHORPENING. Our definite project report was complete when we presented the project last year.

Mr. FORD. Do these definite project reports show the need for increased cost of $11 million?

General CHORPENING. That is one of the things that is illustrative of what I have said earlier today. When a definite project report is completed at some time prior to the initiation of work, or even after initiation, particularly in projects such as this, which is a very large project with an extended period of time on construction, many changes occur. Many desirable engineering changes become apparent as we proceed with the work.

Mr. FORD. In other words, in the 2 years since you have completed your definite project report there has been a $50,600,000 increase in the cost of the project?

General CHORPENING. Actually the definite project study having to do with the basis of the design was completed in 1948—some 3 years ago.

Mr. FORD. It appears, then, that the completion of the definite project report is not an indication of the ultimate cost, or the ultimate solution to the problem of increased cost?

General CHORPENING. Not the ultimate solution: no, sir. On any dam, particularly a large one, it would be a physical impossibility, without spending a great deal of additional time and money in the preparation of the initial studies, to determine all of the conditions we might encounter. And I am talking now about the conditions of the project. Work on the definite project report and later studies have nothing to do with the increase in over-all construction costs over which we have no control.

INCREASED COSTS ON VARIOUS PROJECTS

Mr. FORD. What disturbed me is the fact that in the three projects that are more or less connected—Oahe, Fort Randall, and Gavins Point—there have been many millions of dollars' increase in cost. If the Congress had known those costs, there would be a grave doubt in my mind that Congress would have gone ahead and authorized the money for the construction of the projects.

General CHORPENING. In the last several years, I believe that the increase in estimated costs have not been out of line, taking into account the fact that we have, by further studies and cooperative work with the other agencies of the Government, better determined the electrical potentialities. If those changes that have been made in the actual projects and the increased costs of construction were taken into consideration, then the over-all increases have not been unduly out of line.

Furthermore, as these increases have come along, the reevaulation of the benefits show that the cost-benefit ratios on those projects is still most favorable.

The greater potential resulting from the larger power installation increases proportionately the benefits to be derived therefrom.

Mr. FORD. That could be said for a lot of other projects.

General CHORPENING. Yes, sir.

Mr. FORD. It just happens that these projects involve a tremendous amount in their initial outlay. In my estimation, there is some question about the desirability at this point of obligating ourselves to such sizable outlays.

DALE HOLLOW RESERVOIR, TENN. AND KY.

Mr. RABAUT. We will take up "Dale Hollow Reservoir, Tenn. and Ky."

The total estimated Federal cost is $26,200,000. The allotments to date are $24,709,000.

The tentative allocation for the fiscal year 1953 is $1,491,000. The 1952 appropriation was $500,000. As of fiscal year 1952 the project will be 94-percent complete, and with the money requested for fiscal year 1953 it will bring it up to 100 percent of completion. Please proceed, General Chorpening.

General CHORPENING. This project has been completed for some time with the exception of the installation of a third power unit. With the funds requested for this year, the project, including this third unit, will be entirely completed, and it is expected that the third unit will be placed on the line in May 1953.

BENEFIT-TO-COST RATIO

Mr. RABAUT. What is the cost-benefit ratio on this project?

General CHORPENING. The benefit-to-cost ratio is 1.39 to 1, sir.

Mr. RABAUT. This project has been very thoroughly explained in previous hearings, and it is in its completion stage.

With the 1953 money, the largest amount is to be spent upon the construction of the third unit, which amounts to $1,087,000. There is a small sum for the engineering and design in the amount of $9,000 and two other small amounts. How do you explain the decrease in the benefit-to-cost ratio from 1.55 to 1.39?

General CHORPENING. The benefits were reevaluated in the past year. There was a very slight increase in cost amounting to $150,000, which would not account but for a small fraction of that. I think it is a reevaluation of the benefits.

Mr. RABAUT. Will you supply it for the record?

General CHORPENING. Yes, sir.

(The information requested is as follows.)

Change in benefit-to-cost ratio for Dale Hollow Reservoir

The reasons for the decrease of the benefit-to-cost ratio on the Dale Hollow project from 1.55 for fiscal year 1952 to 1.39 for fiscal year 1953 is the result of two factors:

(1) The increase in the estimated cost of the project; and

(2) A reestimate of the cost of maintenance and operation of the project. There is no increase in the average annual benefits.

Mr. FORD. The fact that this benefit-to-cost ratio has gone down to that point where we are coming to the end of the project is not a general trend that we are going to have developed, is it?

General CHORPENING. No, sir. The general trend is that as we go along with these projects and with the country growing and developing and real estate values going higher, the benefit-cost ratio increases.

MEMPHIS, WOLF RIVER AND NONCONNAH CREEK, TENN.

Mr. RABAUT. The next item is entitled "Memphis, Wolf River and Nonconnah Creek, Tenn."

It is a project with a total estimated Federal cost of $13,430,000. The allotments to date are $8,538,700. There was appropriated in the year 1952 the amount of $750,000. The tentative allocation for fiscal year 1953 is $750,000. The percentage of completion as of the close of 1952 will be 64 percent. The new money anticipated for 1953 will bring the rate to 69 percent. This project is under the authorization of 1937 and 1946 Flood Control Acts, and the 1939 War Department Civil Appropriation Act.

What did you do with this money you received last year, and what will you do with the $750,000 you ask for this year?

DESCRIPTION OF WORK DONE

General CHORPENING. This is a local flood-control project consisting of levees, floodwalls, and pumping stations. With the funds given to us in 1952 we are completing certain work in connection with the Marble Bayou pumping station and initiating work on a floodwall portion of the project known as 1C floodwall.

With the funds asked for in 1953 we will continue the construction on that floodwall. We have a map here if you care to see it.

RELATIONSHIP WITH MISSISSIPPI RIVER COMMISSION

Mr. RABAUT. What is the relationship between this project and the Mississippi Harbor project of the Mississippi River Commission.

General CHORPENING. The harbor project is in connection with navigation at the city of Memphis, Tenn. This is entirely a local flood-protection project for the city.

Mr. RABAUT. How far away is it from the city?

General CHORPENING. About 2 miles from the major part of the work.

BENEFIT-TO-COST RATIO

Mr. FORD. General, there has been a rather substantial increase in benefit-to-cost ratio. Last year it was 1.1 to 1 and this year it is set forth as 1.3 to 1. How do you account for that?

General CHORPENING. I noticed that and I looked into it. We have a new reevaluation of the benefits.

Memphis is a growing city. We had to take into account the enhancement of the land values in the past several years and the industries that have moved in there. As a result of that reevaluation it was established that the benefit, cost ratio has been carried at far too low a figure.

CONTINUING CONTRACTS

Mr. FORD. Last year the Congress appropriated $750,000, and by so doing we initiated a continuing contract; isn't that correct?

General CHORPENING. Yes, sir. On the floodwall 1C.

Mr. FORD. The money requested this year is for a continuation of that existing contract?

General CHORPENING. Yes, sir.

Mr. FORD. The $730,000 in the following year will also be as a part of that continuing contract?

Mr. BOUSQUET. That is correct.

Mr. FORD. So for a period of 3 years you have a continuing contract?

Mr. BOUSQUET. Yes, sir.

Mr. FORD. I notice on page 361 of the Justification this statement:

When completed, this item of work will comprise an intrinsically useful component of the over-all project.

In other words I gather from that statement that when those funds are appropriated for this continuing contract, there will be no need to embark on the others in order to get benefit from that which you have already done.

General CHORPENING. I am going to have to check this to be positive, but it is my impression that if this is completed it will constitute a portion which, in itself, will provide protection without the additional portion. I want to be sure of that because I cannot tell from the map whether it is completely true.

(The information requested is as follows:)

Section IC upon completion will provide flood protection in conjunction with section ID, nearing completion against all experienced floods to the area directly behind the levee. These units together will form a useful unit for local protection.

Mr. FORD. That statement in the justification would lead you to believe that?

General CHORPENING. Yes, sir.

NO INCREASE IN COSTS

Mr. FORD. Has there been any increase in the cost of this project?

General CHORPENING. No, sir.

Mr. FORD. How do you account for that?

General CHORPENING. We have considered our present estimate against prevailing prices in that vicinity and believe that we have included amounts to take care of the construction.

BELTON RESERVOIR, TEX.

Mr. RABAUT. Belton Reservoir, Tex., is a project with a total estimated Federal cost of $17,750,000. There have been allotments to date of $8,901,700. The amount appropriated in fiscal year 1952 was $4,000,000. The tentative allocation for fiscal year 1953 is $3,500,000. The percentage of completion, as of the close of 1952 is 50 percent and the funds requested for fiscal year 1953 will bring the completion rate to 70 percent.

Now we would be pleased to hear what has been done with the money we appropriated in 1952 and what is anticipated to be accomplished with the amount of $3,500,000 requested for fiscal year 1953.

DESCRIPTION OF PROJECT AND EXPENDITURES

General CHORPENING. This is a multiple-purpose reservoir located on the Leon River, a tributary of the Brazos River in Texas.

In 1952 the funds were allocated for the most part on the construction of the embankment and spillway and the relocations. The major relocations involved were State Highways 36 and 317, and $106,000 on cemeteries.

With the funds requested in 1953 it is proposed to place approximately $2,400,000 on the embankment and spillway and much smaller amounts on relocation features, the largest of which is county roads in the amount of $140,00.

Reservoir clearing is $145,000; land acquisition is $504,000.

I should have mentioned that a considerable portion of the 1952 funds also went into land acquisition.

Mr. RABAUT. Yes, sir; over $1,300,000.

General CHORPENING. Yes, sir.

Mr. RABAUT. Last year you received $4,000,000 for this project. The unobligated balance on June 30 was $90,000, yet on December 31 you had an unobligated balance of $4,171,337. How do you explain that?

General CHORPENING. Funds were not available to us until November 1951. So we had not been able to award any contracts with the funds up to December 31 or January 1, whichever the date is.

(Discussion off the record.)

General CHORPENING. I will have to furnish that for the record, sir.

(The information requested is as follows:)

The explanation of the unobligated balance of $4,171,337 available to the Belton Reservoir project on December 31, 1951, when the balance unobligated on June 30, 1951, of $90,000 plus the appropriation of $4,000,000 for fiscal year 1952 totals only $4,090,000 is as follows:

During the latter half of fiscal year 1951, it became apparent from the rapid progress being made on the San Angelo Reservoir project that additional funds would be required prior to receipt of the appropriation for that project for fiscal year 1952. It was also apparent that certain funds available to Belton Reservoir, Tex., for the relocation of State Highway No. 36 during fiscal year 1951 would not be required during the remainder of the fiscal year due to delays in the completion of bridge plans for this location by the Texas State Highway Department. In order that work could be continued on an economical schedule on the San Angelo Reservoir project, the amount of $359,000 was borrowed from Belton Reservoir for repayment from the fiscal year 1952 appropriation for San Angelo Reservoir. The repayment of this amount upon passage of the 1952 Appropriation Act furnishes the explanation for the $4,171,337 available on December 31, 1951.

Mr. RABAUT. How do you propose to obligate the $4,100,000 by June 30?

Mr. BOUSQUET. It is to be obligated on about eight or nine items. The relocation of Highway 36, $341,173 in January; cemeteries, $97,200 in January; embankment and spillway, $1,450,000 in March and $413,664 in June.

Relocation of Highways 36 and 317, Cedar Creek, $400,000 in February; reservoir level recorder, $500 in March; radio equipment, $200 in May and $200 in June; land acquisition, $61,100 in January; $161,100 in February; $191,100 in March; $241,700 in April; $271,700 in May; $281,700 in June.

Government costs on all existing contracts, $30,000 in January, February, and March; $50,000 in April and $60,000 in May and June.

BENEFIT-TO-COST RATIO

Mr. RABAUT. How do you explain the decrease in the benefit-cost ratio from 1.64 to 1.5 even though the cost remained the same?

General CHORPENING. The reevaluation of the benefits indicated that the earlier figure had been a little too optimistic and it now is indicated that the benefits as against the costs are 1.5 to 1.

Mr. RABAUT. The close scrutiny that is being given to these projects is very impressing upon the committee. We feel that the Engineers are now watching this with an eagle eye when they arrive at deductions of more than 0.50 percent in these cost-benefit ratios.

We like to see high ratios, of course, but on the other hand we like even better the truth and firm estimates.

LOCAL CONTRIBUTIONS

Mr. FORD. At these various relocations, General, and they are reasonably substantial over-all, have there been any local contributions in any way whatsoever?

General CHORPENING. No, sir; none are required.

Mr. FORD. In the case of the pipeline is there any betterment involved?

General CHORPENING. Not to my knowledge. If there are any betterments, the costs will be paid by the utility companies.

Mr. FORD. In the case of the State highways?

General CHORPENING. The same thing is true. It is true of all relocations.

STREAM FLOW REGULATIONS

Mr. FORD. What do you mean by the benefits from stream flow regulation?

General CHORPENING. Without a reservoir in a stream, particularly streams in this country, the flow has extreme variations. You may have a very high flood flow and then the stream practically dries up. With a reservoir in place, a uniform flow can be established which assists in the abatement of stream pollution, which assists in agricultural activities, which assists any municipalities who may take water from the stream.

Mr. FORD. Is that a program that is a recent development so far as the Corps of Engineers are concerned?

General CHORPENING. It is a benefit that is attributable to the project and which should properly be taken into consideration in connection with not only the survey looking toward recommending the project, but also in the economics as the project is being and is built.

Mr. FORD. The Corps of Engineers would never undertake a project that is principally based on benefits to be derived from stream flow regulation.

General CHORPENING. No, that is an incidental benefit to the prime benefits to be obtained.

CONTINUING CONTRACTS

Mr. FORD. Would you read a list of the moneys in fiscal year 1953 which will be used to initiate a continuing contract.

Mr. BOUSQUET. There are no proposed new continuing contracts to be awarded with 1953 money.

Mr. FORD. Are any of the funds for fiscal year 1953 for the termination of presently continuing contracts?

Mr. BOUSQUET. Yes, sir; the amount of $2,436,000 will be applied to a new continuing contract for embankment and spillway to be awarded in April of 1952.

Mr. FORD. I am not quite sure, is that a contradiction of what you said a minute ago? The question I asked then was, Will any of the money for fiscal year 1953 be used for the termination of any prestion of presently continuing contracts?

Mr. BOUSQUET. This will be used for the continuation, not the termination of a continuing contract.

Mr. FORD. That is for embankment and spillway?

Mr. BOUSQUET. Yes, sir.

FORT WORTH FLOODWAY, TEXAS

Mr. RABAUT. The next item is "Fort Worth floodway, Texas." This is a project with a total estimated Federal cost of $4,200,000. The allotments to date are $1,978,000. The amount appropriated in fiscal year 1952 was $700,000. The tentative allocation for fiscal year 1953 is $750,000. This project had an authorization in the 1945 River and Harbor Act. As of the close of 1952 it will be 47 percent completed and the new money requested for fiscal year 1953 would bring the rate to 65 percent.

I think it would be very proper, General, for you to tell us what you did with the money appropriated in 1952 and what you intend to do with the money requested for fiscal year 1953.

General CHORPENING. This is a local flood-protection project for Fort Worth, Tex., which is a part of a comprehensive plan and ties in with the Benbrook Reservoir which is essentially complete with the funds appropriated in 1952, we have proceeded with channel excavation and drainage structures, the greater amount going to channel excavation to the extent of $310,000, some funds to various relocations of railroad bridges, totaling approximately $250,000.

In fiscal year 1953 we propose to utilize $102,000 for drainage structures, $607,900 for the completion of channel excavation, and small amounts for the completion of relocations.

The project has a benefit-cost ratio of 1.6 to 1 in conjunction with the Benbrook Reservoir which is a part of the over-all plan.

Mr. FORD. The funds requested in fiscal year 1953 for completion of channel excavation, totaling $600,900, will that be used to initiate a new continuing contract?

Mr. BOUSQUET. No, sir, that will be used to initiate a separate contract for a portion of that work.

Mr. FORD. It will not be used for the completion of any current contracts?

Mr. BOUSQUET. No, sir, it is a separate contract.

CONTINUING CONTRACTS

Mr. FORD. The item of drainage structures totaling $102,500, is that for the completion of a continuing contract?

Mr. BOUSQUET. No, sir; that is also a separate contract.

Mr. FORD. The items of Belknap Street Bridge in the amount of $2,000, the T. & P. Railroad bridge, $2,000, are they for the completion of current continuing contracts?

Mr. BOUSQUET. Yes, sir; they are.

Mr. FORD. Under "Relocation," the two items of $19,600 and the other of $16,000, are they for the completion of current contracts?

General CHORPENING. One of those is engineering and design.

Mr. BOUSQUET. That contract has not been awarded. It will be awarded in the month of June. The funds that have been allocated to that, plus the funds requested in 1953, will be sufficient to complete that contract.

Mr. FORD. That total contract, totaling about $243,000, is all one continuing contract covering two fiscal years?

Mr. BOUSQUET. It is more than that. It would be for the entire item, $364,400. It is the money from the previous year and if added to it, will complete it but it has not yet been awarded.

Mr. FORD. Then the $121,944 has not as yet been obligated.

Mr. BOUSQUET. That is correct. That amount plus the $224,000, together with the $19,600 will be obligated when the contract is awarded.

GARZA-LITTLE ELM RESERVOIR, TEX.

Mr. RABAUT. We now have the Garza-Little Elm Reservoir, Tex. This is a project with a total estimated Federal cost of $21,322,000. In the past there have been allotments of $9,268,600. The amount appropriated in fiscal year 1952 was $3,000,000. The tentative allocation for fiscal year 1953 is $5,300,000. The project had authorization in the 1945 River and Harbor Act. The percentage of completion lists the project as 43 percent by the close of fiscal 1952 and the rate would rise to 68 percent with the 1953 money.

I note three big expenditures here in 1952: For the spillway it is $547,200; for State Highway 77 it is $748,000; and for the land acquisition it is $1,108,182. There are, of course, many other items, totaling $3,000,000. How much land did you have in this land acquisition total of $4,957,480?

BREAKDOWN OF THE ACQUIRED LAND

General CHORPENING. 50,000 acres. That is broken down as follows: 4,700 of residential at $212 an acre; 16,000 of woodland at $40 an acre; 12,000 of agricultural at $100 an acre; 17,300 of pasture at $56.50 per acre.

These are the estimates on land costs made as of July 1951. All of these figures we are giving you tie into the estimated costs made as of July 1951.

Mr. RABAUT. According to this you have considerable land. If you haven't used your money for your land in 1952, you have a very considerable portion of this original estimate for land purchases here remaining in your fund.

General CHORPENING. That is correct.

Mr. RABAUT. Because you even have land in the sum of over $1,500,000 to acquire after 1953?

General CHORPENING. Yes, sir.

Mr. RABAUT. Does the acquisition of land to date, fit in with the rates you have quoted?

General CHORPENING. Yes, sir; we are far enough along with this project and we have had plenty of experience down there because we are building other reservoirs in the area. We have very good experience in that area as to what land costs are. As the committee well knows, we have made a decrease of nearly $2,000,000 on this project, which is a further indication that we think we know or have very firm ideas of our costs.

Mr. RABAUT. Do you want to make any further general statement on this project?

BENEFIT-TO-COST RATIO

General CHORPENING. This is an important element of the flood-protection project on the Trinity River. On this one the greatest benefit is to the city of Dallas which lies not too far away. It has a benefit-cost ratio of 1.84 to 1.

Mr. FORD. Has there been any revision in the benefit-to-cost ratio?

Mr. BOUSQUET. 1.64 to 1 was the ratio last year.

Mr. FORD. This year it is 1.84 to 1.

General CHORPENING. Again, that is due to a reevaluation of the benefits, and with the decrease in cost, both of them served to increase the benefit-cost ratio.

LOCAL CONTRIBUTION

Mr. FORD. According to the testimony last year, the city of Dallas was to contribute $3,300,000 in cash to be used for the construction of this project. Has that money been paid?

General CHORPENING. $500,000 has been paid to date.

Mr. FORD. When do you expect the other contributions to be made?

General CHORPENING. Those contributions will be made as we proceed with the construction and from our experience with the city of Dallas, there will be no difficulty in securing that.

COMPARISON OF ORIGINAL TO PRESENT ESTIMATED COST

Mr. FORD. What was the original cost of this project?

General CHORPENING. The original estimated cost used as the basis for authorization was $5,472,000.

Mr. FORD. The original cost was $5,472,000?

General CHORPENING. Yes, sir.

Mr. FORD. And the present estimated cost is $21,322,000?

General CHORPENING. That is correct. There have been a number of changes made in the project over what was originally contemplated, some in view of our experience since that time in connection with the possible floods that might be encountered, which required that a larger spillway be included. Also, there have been some changes having to do with the tie-up between the Garza Dam which belongs to the city of Dallas, and this one. This project floods out the existing Garza Dam.

Mr. FORD. The contribution of $3,300,000 by the city of Dallas, was that based on the original estimated cost of the project totaling $5,472,000?

General CHORPENING. No, sir. That sum was developed at some later time when certain modifications to the project were made.

Mr. FORD. In light of the rather large increase in the cost of the project, and the fact that there is a $3,300,000 contribution by the city of Dallas, it might be well to include in the record a statement showing what the original cost of the project was and how much at that time the city of Dallas was to contribute, and all subsequent history in reference to the cost and contributions to be made by Dallas.

General CHORPENING. We can supply that, sir.

(The information requested is as follows:)

The estimated amount of the contribution to the Federal Government by the city of Dallas for the additional 310,000 acre-feet of storage provided in Garza-Little Elm Reservoir in accordance with the authority contained in the War Department Civil Appropriations Act approved July 19, 1938, has been computed on an incremental basis. In addition, the project also provides for 105,000 acre-feet of conservation storage to replace the storage now impounded by the existing Garza Dam as authorized. The estimated cost of a dam and reservoir which would be 310,000 acre-feet smaller than the present design has been computed and subtracted from the cost of the dam and reservoir actually being constructed. This difference represents the incremental cost of the storage for the city of Dallas. In the course of the review of these estimates, it has been found that the amount estimated for local contribution appears to be sufficient to cover the actual cost which will become definitely known as to the amount upon completion of the project. The unused portion of the contribution may then be returned to the city with the approval of the Secretary of the Army.

Mr. FORD. Is that $3,300,000 in contributions in there for relocations, or for what purpose?

General CHORPENING. It is a contribution to the Federal Government which will entitle the city of Dallas to take water from the reservoir and is a part of the deal where the Federal Government, for flooding out a water supply reservoir that belongs to the city of Dallas, provides a better source. The difference of $3,300,000 has been determined to be the amount that the city is benefiting from the rearrangement of their facilities and the Federal facilities.

Mr. FORD. Once the reservoir is completed, will the city of Dallas make any contribution to the annual maintenance cost?

General CHORPENING. No, sir. Their intake will be at the reservoir and a pipeline going out of it. Of course, the city of Dallas will be completely responsible for the maintenance of that.

LAVON RESERVOIR, TEX.

Mr. RABAUT. Next we have the Lavon Reservoir, Tex. Here is a project with a total estimated Federal cost of $11,660,000. The allotments to date are $11,035,200. The amount appropriated in fiscal year 1952 is $1,500,000. The tentative allocation for fiscal year 1953 is $462,000. As of the close of 1952, it will be 95 percent completed. With the money requested for fiscal year 1953 the rate would advance to 99 percent. May we have a brief statement on this project, General?

PROGRESS OF WORK

General CHORPENING. This is another reservoir which is a flood-control project on the Trinity River. It is rapidly approaching completion. With the funds that were appropriated in 1952 we expect to make progress toward the completion of the spillway and embankment, and also considerable amounts on relocation items, railroads and county roads, as well as water supply intake and land acquisitions.

With the funds asked for in 1953 we will complete all items of the project with the exception of reservoir management items.

Mr. KERR. It is more than 90 percent complete, is that right?

General CHORPENING. Yes, sir. I am happy to call the committee's attention to the fact that we have again reduced the estimated cost of this reservoir by $340,000.

Mr. FORD. General, do I gather from the last paragraph of the justification on page 373 that you do anticipate coming back next year for $154,000 for reservoir management?

General CHORPENING. That will depend entirely on the criteria established next year and on the situation of the country. This year under the criteria we asked for very little funds for that purpose and anly essential items were allowed.

Mr. FORD. As I look at what the corps requested from the Bureau of the Budget, you apparently did ask for those funds this year.

General CHORPENING. We did ask for some, but there was only $12,000 allowed this year. There were very little reservoir management funds allowed.

BENEFIT-TO-COST RATIO

Mr. FORD. How do you account for the increase in the benefit-to-cost ratio? Last year it was given as 1.34 to 1. This year it is 1.94 to1.

General CHORPENING. Again, on a reevaluation of the benefits and a slight decrease in cost.

Mr. FORD. Last year as I recall the budget included $1,200,000 for this project. That was approved by the House and subsequently by the Senate. I also recall some special language that was in the conference report in reference to $300,000. Just what was that?

WATER-SUPPLY INTAKE

General CHORPENING. That is the item on page 372 for the water-supply intake.

Mr. FORD. For the record, will you explain that item?

General CHORPENING. That is an intake that is to be built so that a local water-supply district may take water out of the reservoir. It is specifically provided that in the contract we make for the sale of that storage, the amount of $300,000 will be amortized during the life of the contract with the local water district.

Mr. FORD. In other words, the Corps of Engineers has instituted the project and it is eventually planned that a local water district will make use of that part of the project and in the contract you make with the district, costs will be amortized?

General CHORPENING. Yes, sir. There is conservation storage available at this reservoir.

Mr. FORD. What is the status of those negotiations?

General CHORPENING. There have been preliminary conversations, and at this time nothing has been firmed up.

(Discussion off the record.)

Mr. FORD. Have steps been taken to get the law back on the books?

General CHORPENING. We believe there will probably be an omnibus bill this year and that would be the time to present it to the Public Works Committee. If not, we will take other measures to do it.

I understand informally that a bill has already been introduced in the Senate to restore that authority to the Corps of Engineers.

Mr. FORD. Has part of the project been contracted for?

Mr. BOUSQUET. No, sir. We have not entered a contract on that. It is scheduled for the middle of May, this year.

TEXARKANA RESERVOIR, TEX.

Mr. RABAUT. The next item is the Texarkana Reservoir. This is a project with a total estimated Federal cost of $33 million. The allotments to date have been $14,000,300. The amount appropriated in the fiscal year 1952 was $4 million. The tentative allocation for fiscal year 1953 is $6 million.

This project was authorized in the 1946 Flood Control Act.

The percentage of completion as of the close of fiscal year 1952 is 43 percent. The money requested for 1953 would bring the rate to 62 percent.

General, we would be pleased to learn what you have accomplished with the money for fiscal year 1952, and what you intend to do with the money requested for fiscal year 1953.

WORK PROGRESS REPORT

General CHORPENING. With the fiscal year 1952 funds available we propose to complete work on the terrace and flood-plain sections of the dam; to initiate work on the relocation of the St. Louis Southwestern Railroad; and continue land acquisition. We hope to initiate relocation of United States Highway 67 and the relocation of State Highway 8, and some minor relocations of county roads.

In 1953 we will continue with land acquisition, setting up $840,000 for that purpose and enter a continuing contract for the construction of the spillway, outlet structure, and closure section for $1,589,500; continue the relocation of the St. Louis Southwestern Railroad, with $1,404,700, and continue the relocation of United States Highway 67. Also, relocation of State Highway 8.

COST-BENEFIT RATIO

Mr. RABAUT. What is the cost-benefit ratio?

General CHORPENING. The benefit-cost ratio is 1.4 to 1. There has been no change in the estimated cost of the project from last year.

CONTINUING CONTRACT

Mr. FORD. General, I notice the request for $1,589,500. Is that for the initiation of a new continuing contract?

General CHORPENING. That is not for a new contract, sir.

Mr. FORD. Is that a part of the project that could be deferred while we appropriated funds for the continuing contracts which are now in operation?

General CHORPENING. That sum you inquired about was in connection with the spillway, outlet structure, and closure section. That should proceed to tie in with the other part of the construction.

Mr. FORD. But it is separate from any of the other contract?

General CHORPENING. Yes, sir.

Mr. FORD. How do you account for the fact that last year there was $3 million increase in the cost of the project and this year there was no increase?

General CHORPENING. The increase we made last year, in the light of bids received and awarded, was considered to be sufficient to take care of the construction for the remainder of the project.

WHITNEY RESERVOIR, TEX.

Mr. RABAUT. Whitney Reservoir in Texas is the next item. This is a project with a total estimated Federal cost of $42,043,900. The allotments to date have been $41,333,500. The amount appropriated in fiscal year 1952 was $3,800,000. The tentative allocation for fiscal year 1953 is $175,000.

This project has authorization in 1941 and 1944 Flood Control Acts. The project will be 98 percent completed as of the close of fiscal year 1952 and the 1953 money would bring the percentage up to 99 percent.

General, you may tell us about it.

General CHORPENING. This is a flood-control and power dam on the Brazos River in Texas. The funds available in fiscal year 1952 will bring the project almost to completion. The relatively small amount of $175,000 asked for in 1953, will bring it entirely to completion with the exception of the reservoir management and public use phase of the project.

There has been no increase in the estimated cost and the benefit-cost ratio is now 1.44 to 1, which is an increase from 1.15 to 1, as given last year. The benefits have been reevaluated and it has resulted in the increased benefit-cost ratio.

Mr. FORD. Do you still expect to get power on the lines in August 1952?

General CHORPENING. We expect to make it in September, now, instead of August.

SNAGGING AND CLEARING

Mr. RABAUT. We will next turn to snagging and clearing. The tentative allocation for fiscal year 1953 is $800,000. What do you intend to do with this money?

General CHORPENING. These funds will be utilized in accordance with the provisions of the law at locations where a small amount—and we cannot utilize over $50,000 in any one place—will result in the cleaning out of snags and debris in channels and thereby lessen flood damages.

Now I can furnish for the record, and I have it here, a list of the projects to which allocations were made during fiscal year 1952, and pending allocations at this time.

Mr. RABAUT. Very well, supply it for the record.

(The document referred to follows:)

Project:	*Allocations made*
Tupelo Bayou, Faulkner County, Ark	$16,000
Merced River, Calif	50,000
Los Banos Creek, Merced County, Calif	20,000
Tule River above Porterville, Calif	15,000
Rio Grande near Monte Vista, Colo	48,165
La Moine River between miles 50 and 58, Illinois	10,000
Arkansas River near Garden City, Kans	18,300
Bayou Cyprierre, La	50,000
Natalbany River, La	50,000
Tuscumbia River near Corinth, Miss	40,000
Ashlog Bayou, Quitman County, Miss	40,000
Truckee River, vicinity of Reno and Vista, Nev	25,000
Carson River near Carson City, Nev	5,000
Esopus Creek vicinity Mount Pleasant, N. Y	50,000
Trent River between Trenton (mile 38) and the Jones-Lenoir County line (mile 75.5), Jones County, N. C	50,000
Pond Creek, Tenn	47,000
Obion River near Rives, Tenn	40,000
Mustang Creek, Tex	25,000
Cedar River, King County, Wash	5,400
Okanogan River, Tonasket Creek and Osoyoos Lake, Wash	15,000
Middle Island Creek, vicinity of West Union, W. Va	30,000
Bingamon Creek at and in the vicinity of Wyatt, Harrison County, W. Va	31,000
Pending allocations:	
Park River, N. Dak	50,000
Forest River, N. Dak	35,000
Satus Creek, tributary of Yakima River near Toppenish, Wash	34,135
Total	800,000

EMERGENCY BANK PROTECTION

Mr. RABAUT. We go to the next project, "Emergency bank protection."

The tentative allocations for fiscal year 1953 are $400,000. What do you intend to do with that money?

General CHORPENING. Under the provisions of the law these funds can only be utilized at places where erosion of the banks of rivers is endangering public utilities, bridges or highways, and not to exceed $50,000 can be allocated at any one location.

I will furnish for the record the locations to which funds were allocated during the fiscal year of 1952.

(The information referred to follows:)

Name of project:	
Mount Vernon Water Works Building, Ohio River, Ind	$3,350
Chester Bridge, Mississippi River, Ill	50,000
Nestucca River, in vicinity of Pacific City, Oreg	16,000
Armistead Red River, La	50,000
Hanna, Red River, La	50,000
Nisqually River, vicinity Elbe, Wash	25,500
Arkansas River at Kaw City, Okla	50,000
Buford-Trenton irrigation project, Missouri River, N. Dak	50,000
Balance available for allocation during remainder of fiscal year 1952	205,150
Total	500,000

MONETARY REQUESTS

Mr. FORD. Last year, how much was appropriated for that item? I don't see anything in the justification.

General CHORPENING. There was appropriated $500,000 in fiscal year 1952, sir.

Mr. FORD. And this year you requested of the Bureau of the Budget for this item, $400,000 which amount was included in the budget?

General CHORPENING. Yes, sir.

SECTION 212 PROJECTS

Mr. RABAUT. We will proceed to section 212 projects.

The tentative allocation for fiscal year 1953 is $1 million. What do you intend to do with that $1 million?

General CHORPENING. Under the provisions of the act, this fund is set up to take care of those relatively small flood-control projects where it would be uneconomical and time consuming to go through the usual procedures of survey and authorization and it delegates to the Chief of Engineers the authority to consider requests from communities where the estimated cost for flood protection is not greater than $150,000 in any one location.

I can submit for the record the allocations that have been made and the pending allocations for fiscal year 1952.

Mr. RABAUT. Very well.

(The information referred to follows:)

Allocations made:	
Gooding-Shoshone, Big and Little Wood Rivers, Idaho	$131,400
Spring Creek at Herreid, S. Dak	35,500
Burgettstown, Racoon Creek, Pa	146,000
Slovan, Racoon Creek, Pa	150,000
Allocation for field studies and reports	31,500
Pending allocations:	
Newton Creek at Bainbridge, N. Y.[1]	150,000
Sowashee Creek at Meridian, Miss.[1]	150,000
Ahsahka location, Clearwater River, Idaho[2]	122,000
Bancroft location, Portneuf River, Idaho[2]	23,400
Livingston Manor and Roscoe Rockland area, New York[2]	60,200
Total	1,000,000

[1] Report under review in Office, Chief of Engineers.
[2] Report being prepared.

Mr. FORD. In other words, the chart you are going to include in the record for this year is similar to the one that was included in the transcript of hearings last year?

General CHORPENING. Yes, sir.

Mr. FORD. This year, you requested of the Bureau of the Budget $1 million for this work and the Bureau of the Budget included $1 million?

General CHORPENING. Yes, sir, that is correct, Mr. Ford.

I would like to say that this authority has been given to the Corps of Engineers only recently and that we apply the same rigorous scrutiny to the economic justifications as we do to the larger projects that go through all of the formal processes, sir.

PLANNING

Mr. RABAUT. We will now turn to the item called planning. We have listed here a number of projects upon which we will touch individually and request a short general statement on each. These projects furnish a total estimated cost of $691,478,500. The allotments prior to fiscal year 1953 on all of these projects have been $5,873,300. The tentative allotment for fiscal year 1953 is $1,500,000. Additional to complete after 1953 is $684,105,200.

Obligations for Planning—Flood Control, General

Fiscal year:	*Actual obligations*	
1949	$3,108,800	
1950	4,271,522	
1951	1,886,534	
1952	3,527,114	(estimated)

GREERS FERRY RESERVOIR, ARK.

Mr. RABAUT. Please make a brief statement on Greers Ferry.

General CHORPENING. Greers Ferry Reservoir is an authorized project on the White River Basin in Arkansas.

This reservoir is part of the comprehensive system of reservoirs on that river and we have already had allotments of $231,000 and we are asking for $50,000 more in order to further that planning and bring it to a point where we will have sufficient data to be able, if it is desired, to proceed with construction.

TABLE ROCK RESERVOIR, ARK.

Mr. RABAUT. We will take up the next one, Table Rock Reservoir, Ark.

General CHORPENING. That is the next largest reservoir again in the White River system, for power and flood control.

We have proceeded a long way in connection with our planning there and we are asking for $100,000 which will essentially complete our definite project studies.

Mr. FORD. Is that project a multi-purpose project?

General CHORPENING. Yes, sir. It is for power and flood control, primarily.

SAN ANTONIO AND CHINO CREEKS, CALIF.

Mr. RABAULT. Now we go to California, the San Antonio and Chino Creeks project.

General CHORPENING. This is a flood-control project which is a part of the flood-control system of Los Angeles, although not included in the project that has previously been considered here for funds. We are requesting $40,000 to initiate planning there.

DISTRICT OF COLUMBIA, ANACOSTIA RIVER

General CHORPENING. The Anacostia River is in the District of Columbia and we have a most aggravated flood situation which is on the outskirts of the city and in Maryland and it has been most disturbing to the business of government. An amount of $25,000 was allotted for fiscal year 1952 and we are asking for $50,000 to further the planning on that project.

KAWAINUI SWAMP, HAWAII

Mr. RABAUT. We will next take up Kawainui Swamp, in Hawaii.

General CHORPENING. That is a flood-control project on the island of Oahu. That project has only recently been authorized and it was particularly requested that work be done due to the fact that the Navy has installations nearby, and the access facilities are flooded at the present time. They wanted planning pushed.

Mr. KERR. What is the nature of that work? Is it deepening the harbors?

General CHORPENING. No, sir; it will be the draining of the swamp and probably the building of a channel to get the waters away, instead of flooding the surrounding countryside as it does now.

STRAWN RESERVOIR, KANS.

Mr. RABAUT. We will next take up the Strawn Reservoir in Kansas.

General CHORPENING. $250,000 was appropriated for this flood-control project on the Neosho River in fiscal year 1952. There was a most severe flood in that area last year and there were two floods of record. $100,000 is asked for to essentially complete the definite project studies on that reservoir.

BARBOURVILLE, KY.

Mr. RABAUT. We will next consider Barbourville, Ky.

General CHORPENING. That is a local flood-control project. It is a most meritorious project. Severe floods have been encountered there, and $25,000 is asked to initiate definite project studies.

JESSAMINE CREEK RESERVOIR, KY.

Mr. RABAUT. We will next take up Jessamine Creek Reservoir in Kentucky.

General CHORPENING. That is a multiple-purpose project, with considerable power potentialities. $226,000 has been available in past years, and the $50,000 requested is to bring those studies pretty much to a conclusion to determine more exactly the potentialities of that reservoir.

Mr. RABAUT. What are the specific benefits anticipated?

General CHORPENING. For flood control, 72 percent of the benefits; 26 percent for power, and other, 2 percent.

Mr. RABAUT. Can you supply the amounts in the percentage?

General CHORPENING. I don't know if we have gone that far at this time, but if we have, I will supply it, sir.

Mr. RABAUT. Do you have the specific cost?

General CHORPENING. The total estimated cost is as shown here.

Mr. RABAUT. How about the annual cost, General?

General CHORPENING. I do have the breakdown on these benefits and costs as we see them, if you would like to have them at this time.

Mr. RABAUT. It might be well if you would read it for us.

General CHORPENING. The total flood control benefits are $1,805,500; power benefits, $640,300; conservation and recreation, $50,000; total, $2,496,100. The annual charges are $1,890,000 which would give a benefit-cost ratio of 1.3 to 1. I would like to say for the benefit of the

committee that these are of course quite tentative at this time. That is why we need funds to look into the project further.

Mr. RABAUT. Where will the flood benefits occur, General?

General CHORPENING. It will provide protection against Kentucky River floods, to the capital city of Kentucky, which is Frankfort, and other low-lying areas along this stream. It will also reduce flood stages all along the lower Ohio and to a lesser extent, along the Mississippi River.

Mr. RABAUT. Are the power benefits contingent on any other project or are they independent of any project except this one?

General CHORPENING. They are dependent on another project, the Booneville project.

Mr. RABAUT. What is the relationship between this project and the Booneville project?

General CHORPENING. We do not have that information with us, sir.

Mr. RABAUT. Supply it for the record.

(The information requested follows:)

The Jessamine Creek Reservoir is a multiple-purpose project and is a unit in a two-reservoir system consisting of the Jessamine Creek Reservoir and the Booneville Reservoir. The power benefits estimated for the Jessamine Creek project are predicated on the provision of additional flood-control storage in the Booneville project which is located upstream on the south fork of the Kentucky River. Until such time as the Booneville project is constructed all of the storage to be provided in the Jessamine Creek project will be needed for flood-control purposes.

Mr. RABAUT. What is the basis for the flood-control benefits?

General CHORPENING. The basis of the flood-control benefits are the information that we got in connection with our original survey document, plus such work as we have done since with the funds available to determine what flood damages would be prevented by the reservoir.

PINEVILLE, KY.

Mr. RABAUT. We will proceed to Pineville, Ky.

General CHORPENING. That is very similar to Barbourville and is a local flood-protection project. Pineville has been certified by the President. We have been given $25,000 and we ask for $25,000 more which should enable us to essentially complete our definite project studies.

LIBBY RESERVOIR, MONT.

Mr. RABAUT. We will next consider Libby Reservoir in Montana.

General CHORPENING. Libby Reservoir is a multiple-purpose reservoir, primarily for the production of power. It is, incidentally, an international project on the Kootenai River in Montana.

Mr. RABAUT. Has it been approved by the International Committee?

General CHORPENING. It is still under consideration by the International Joint Commission at this time. It is a project that is highly justified and will produce a very considerable block of power. It has just been certified by the President for planning funds to the extent of $125,000.

Mr. RABAUT. Give us an estimate of the relocation costs in this project and the basis therefore?

General CHORPENING. At this time, there are many estimates, of course, on relocations which cannot be too firm, but our estimate is for those relocations in the United States, $79,074,000.

Mr. RABAUT. What about the charges to Canada on that?

General CHORPENING. The charges to Canada is a subject that is now being discussed by the International Joint Commission and until those deliberations and studies are concluded, I cannot say how that will be split up.

Mr. RABAUT. What is the expectancy date for the conclusion?

General CHORPENING. I hope it will be soon.

Mr. RABAUT. How long has it been going on?

General CHORPENING. It has been going on for at least a year to my knowledge, sir.

Mr. FORD. I notice that the estimated cost of a year ago was $239,077,000. This year, the estimated cost is $263,562,000.

General CHORPENING. That change in cost I am sure is mostly based on the Engineer Index—$18,025,000 actually—on price level changes. That is the index. The Canadian costs are currently carried as a Federal cost pending final agreement between the United States and Canada relative to disposition of these costs.

CHAMITA RESERVOIR, N. MEX.

General CHORPENING. Chamita Reservoir is a flood-control project, which has considerable defense implications. It is near Albuquerque, and the flood control that would result from the creation of this reservoir, while it would not directly protect atomic energy installations or the Los Alamos Scientific Laboratory, will prevent floods which would block highways and railroad facilities, that serve those installations.

Also the Kirkland Air Force Base is located in that territory.

We previously had $258,000 and we are asking for $85,000 here to continue the project studies under way.

RIO GRANDE FLOODWAY, N. MEX.

The Rio Grande floodway is a component of the same plan to which the Chamita Reservoir belongs, and makes the project completely effective.

BATAVIA, N. Y.

Batavia is a local flood protection project in New York. They have had many severe floods there and this project would protect defense manufacturing going on at the plant of the Dohler Die-Casting Co.

This is a very worth-while little flood-control project for which no funds have been previously allotted.

MONKEY RUN, CORNING, N. Y.

Mr. RABAUT. The next item is "Monkey Run, Corning, N. Y."

General CHORPENING. That is a local flood-protection project. Monkey Run goes directly under one of the plants of the Corning Glass works which is, of course, very vitally connected with defense industry.

Mr. RABAUT. What about the local contribution on this and at Batavia?

General CHORPENING. On all these local flood protection projects, the local interests must provide the rights-of-way, highway alterations,

save the Government from harm, and maintain the structures after completion.

Mr. RABAUT. What are the benefits of this Corning project?

General CHORPENING. The cost-benefit ratio is 1.8 to 1.

Mr. RABAUT. What are the specific benefits and where will they occur?

General CHORPENING. The current estimated average flood-control benefits are $266,000.

Did you want a more elaborate statement?

Mr. RABAUT. Where will they occur?

General CHORPENING. The Corning Glass Works is the principal industry in the city and the sole source of certain items critical to national defense. Further than that, the floods there in the past have caused very considerable damage to residential, commercial, and industrial property.

There has been some work done on this project before. This is another part of the local protection project at that vicinity.

This little creek goes right underneath this factory. [Indicating on map.]

Mr. RABAUT. What is the population of this town of Corning?

General CHORPENING. I will have to supply that.

(The information referred to is as follows:)

The population of Corning, N. Y., based on the 1950 census is 17,684.

WELLSVILLE, N. Y.

Mr. RABAUT. How about Wellsville, N. Y.?

General CHORPENING. That is a local flood protection project for an area which has a number of manufacturing concerns such as the Sinclair Refining Co., Julius Kaiser Co., and Bausch & Lomb Co. All these plants supplied equipment to the Armed Forces in World War II and are important at this time in connection with defense production.

KEYSTONE RESERVOIR, OKLA.

Mr. RABAUT. We will take up the Keystone Reservoir in Oklahoma.

General CHORPENING. The Keystone Reservoir is part of the comprehensive plan on the Arkansas River. This is a multiple-purpose project. It has power, flood control, and navigation benefits— $364,000 has been appropriated in previous years and $150,000 is requested to carry those project studies further along toward completion.

Mr. RABAUT. To what extent does the economic justification rest on the proposed navigation plan for the Arkansas River?

General CHORPENING. A little less than half of the benefits as now computed for the project are attributable to navigation.

Mr. RABAUT. The project would not stand alone under such circumstances?

General CHORPENING. No, sir.

Mr. FORD. Last year the estimated cost of the Keystone Reservoir was $89,650,000. This year it is estimated to cost $126,750,000. Will you explain the difference?

General CHORPENING. Price level changes account for $5,626,000. We have had to make very considerable structural and engineering modifications here, in connection with relocations, and also in view of

the further studies, we have had to increase the size of the spillway and the power storage allocation to get full benefit from the power that is proposed to be installed. That is $30,430,000.

Mr. FORD. All of these changes were subsequent to the most recent authorization, which I take it came in the Flood Control Act of 1950?

General CHORPENING. These changes that I relate now, we have developed as we have utilized funds available for the definite project studies.

Mr. FORD. Why did you delete from the planning money for this year two projects which were included last year in Oklahoma; namely Eufaula Reservoir and Markham Ferry Reservoir?

General CHORPENING. Of course, nearly all funds available for planning were revoked and had to be reallocated after certification by the President.

On a reconsideration of the entire planning program, both that presented to the President and presented here, we concluded that those projects should not be included this year. In other words, we reanalyzed our planning program and concluded that those should not be asked for under the criteria now obtaining.

HILLS CREEK RESERVOIR, OREG.

Mr. RABAUT. We will next consider Hills Creek Reservoir, Oreg.

General CHORPENING. That is a multiple-purpose project in the Willamette Valley. It has considerable power potentialities, and when constructed it will increase the power output of the Lookout Point Reservoir now under construction.

Mr. RABAUT. Will this project stand alone economically?

General CHORPENING. Yes, sir. This project will stand alone. The benefit-cost ratio is 1.96.

ALLENTOWN, PA.

Mr. RABAUT. The next item is "Allentown, Pa."

General CHORPENING. That is a local flood-protection project.

The national-defense aspects of this project are the same as were presented last year. I will read it into the record again if you would like, sir.

Mr. RABAUT. Please.

(The information requested is as follows:)

There are a number of defense industries located in the flood plain at Allentown, Pa., including 8 plants which have already had Government orders and 11 plants which are expecting Government orders. These industries include the manufacture of iron, steel, and aluminum products, uniforms, canned meats, leather goods, bedding, furniture, soap, ropes, burlap bags, and other goods contributing to the national-defense effort.

Mr. RABAUT. What is the benefit-cost ratio for Allentown?

General CHORPENING. 1.09.

Mr. RABAUT. Is that for Allentown alone?

General CHORPENING. There is a Bear Creek Reservoir which ties into the protective works at Allentown so that the benefit-cost ratio is for the plan including the reservoir and the local protection project.

Mr. RABAUT. Do you have it alone for Allentown?

General CHORPENING. I do not think we have it here for Allentown alone. Actually the reservoir is needed to make the project fully effective.

Mr. RABAUT. I am certain you have to have Bear Creek Reservoir in to get it up to 1.09.

Mr. RABAUT. Will you furnish for the record the cost ratio for Allentown alone, as set forth in the estimated cost in the justification?

General CHORPENING. We will do that, sir.

(The information requested is as follows:)

The benefit-to-cost ratio for the Allentown, Pa., local protection project alone, assuming that Bear Creek Reservoir is in operation is 0.41 to 1. The benefit-to-cost ratio without Bear Creek Reservoir in operation has not been computed, since the project design and cost would differ materially from the project as now proposed. For the system including Bear Creek Reservoir and Allentown, the benefit-to-cost ratio is 1.09.

SWOYERVILLE-FORTY FORT, PA.

General CHORPENING. This is another local flood-protection project and has a benefit-cost ratio of 2.69 to 1. It will protect the community which is in the heart of it, and that is a coal region which contains highly productive coal mines. Prevention of interruption of production is important to national defense.

Also, there is the Wilkes-Barre–Wyoming Valley Airport, the facilities of which are now being utilized by the Air Force, which lies within the protected area.

We have had funds in past years for work on this project, and the funds we are requesting here will carry these definite project studies further along.

DALLAS FLOODWAY, TEXAS

Mr. RABAUT. Our next subject is the Dallas floodway in Texas.

General CHORPENING. That is a local flood-protection project consisting essentially of the construction of levees to carry the Trinity River through the city without damaging the great concentration of industry that has grown up in that vicinity.

I consider this a most vital project upon which we have already had allotments of $286,500 and for which we are requesting $100,000 to essentially complete our definite project studies.

VICTORY RESERVOIR, VT.

Mr. RABAUT. We will now take up Victory Reservoir, Vt.

General CHORPENING. That is entirely a flood-control reservoir for the protection of a number of small towns, Holyoke, Chicopee, Springfield, Hartford, where there is a great amount of manufacturing going on, which ties into the defense effort. It has a benefit-cost ratio of 2.6 to 1.

Mr. FORD. According to the chart of last year, the flood-control was 14 percent and water conservation 86 percent. Has that been changed?

General CHORPENING. It is 13 percent flood control and 87 percent water conservation now, sir. In fact, the emphasis of my testimony ought to have been placed more on the water-conservation end rather than on the flood-control end.

Mr. FORD. Anyway, further on in the chart of last year there is this statement:

The Victory Reservoir is a multipurpose project and will help alleviate a power shortage in the Connecticut River Basin area.

Does that all tie in?

General CHORPENING. It will provide low-water regulation, which will firm up existing downstream hydroelectric-power developments.

Mr. FORD. Private or public power developments?

General CHORPENING. Private.

Mr. FORD. Is that a proper function of the Federal Government, to firm up for private utilities?

General CHORPENING. It was considered to be such here, inasmuch as this was presented in this fashion at the time of authorization.

Mr. FORD. Will there be any contribution by the private power companies to the construction of this project?

General CHORPENING. Will you explain that, Mr. Bousquet?

Mr. BOUSQUET. The Federal Power Commission would make charges to the power companies reaping the benefit from the regulated flow under section 10 (e) of the Federal Water Power Act of 1920.

Mr. FORD. Will the payment, as you have explained, amortize the cost of this project, which is estimated to be $3,680,000 last year and $4,022.000 this year?

Mr. BOUSQUET. Yes, sir.

Mr. FORD. Except for the 13 percent for flood control?

Mr. BOUSQUET. Except for the 13 percent; yes. That portion of it.

GATHRIGHT AND FALLING SPRINGS, VA.

Mr. RABAUT. Our next subject is Gathright and Falling Springs, Va.

General CHORPENING. This is a multiple-purpose project which will have considerable power benefits, as well as flood control. The benefit-cost ratio is 1.36, of which $787,000 is considered as power benefits, which is approximately 50 percent of the project.

This is in an area where, as has been testified, the Southeastern Power Administration has stated there is a power shortage and that Administration is most desirous that work be done in connection with the planning of the project.

There have been no funds previously allotted for planning.

WHEELING-BENWOOD, W. VA.

Mr. RABAUT. Next is Wheeling-Benwood, W. Va.

General CHORPENING. This is a local flood-protection project for the cities of Wheeling and Benwood in West Virginia. The benefit-cost ratio is 1.31. In these towns exist a number of manufacturing establishments which are engaged in iron and steel work, foundries, and food-processing plants.

Mr. FORD. What was done with the appropriated funds last year for planning? Would you like to insert that in the record as a chart for planning on the flood control?

In other words, on what projects of the list that was given last year did you spend planning money? You inserted a list last year of where you wanted to spend planning money. Would you put in the record this year where you actually are spending planning money under "Flood control"?

General CHORPENING. Yes, sir.

Mr. FORD. Include the amounts and so forth.

General CHORPENING. Yes, sir.

(The information requested is as follows:)

The following is a list of flood-control planning projects with the amount allocated to each project from October 25, 1951, to the end of the fiscal year 1952:

Project:	
Table Rock Reservoir, Ark. and Mo	$195,000
Anacostia River, D. C. and Md	25,000
Hartwell Reservoir, Ga. and S. C	190,000
Kawainui Swamp, Hawaii	28,000
Topeka, Kans	70,000
Tuttle Creek Reservoir, Kans	500,000
Toronto Reservoir, Kans	200,000
Strawn Reservoir, Kans	250,000
Pineville, Ky	25,000
Pomme de Terre Reservoir, Mo	375,000
Cape Girardeau, Mo	100,000
Libby Reservoir, Mont	125,000
Monkey Run, Corning, N. Y	50,000
Chamita Reservoir, N. Mex	90,000
Keystone Reservoir, Okla	150,000
Hills Creek Reservoir, Oreg	50,000
Allentown, Pa	35,000
Stewarts Ferry Reservoir, Tenn	150,000
Dallas floodway, Texas	60,000
Salem Church Reservoir, Va	32,000
Wheeling-Benwood, W. Va	40,000

THURSDAY, JANUARY 31, 1952.

OPERATION AND MAINTENANCE

Mr. RABAUT. Under the title "Flood control, general," fiscal year 1953, is listed the tentative allocations for operation and maintenance. This is broken down into three separate divisions.

Under section (a), flood-control reservoirs, including multiple-purpose, other than power, $2,658,500.

Section (b), multiple-purpose reservoir projects, including power, $2,753,500.

Section (c), other, including channel improvement projects and miscellaneous maintenance items, $700,000.

These three make a grand total of the tentative allocations for 1953 of $6,112,000.

General Chorpening, will you bring the table set out on page 603 of the hearings of last year up to date, listing any new projects in 1953.

General CHORPENING. Yes, sir.

(The table requested follows:)

NEW PROJECTS IN 1953 OPERATION AND MAINTENANCE PROGRAM

(Includes certain projects which have been completed for a number of years, but for which funds were not provided in the 1952 program)

(*a*) Flood-control reservoirs (including multiple purposes other than power):
Farmington Reservoir, Calif.
Mansfield Hollow Reservoir, Conn.
Orwell Reservoir, Minn.
Harlan County Reservoir, Nebr.
Mount Morris Reservoir, N. Y.
West Fork of Mill Creek Reservoir, Ohio
Conemaugh Reservoir, Pa.
East Branch Clarion River Reservoir, Pa.

(*b*) Multiple-purpose reservoir projects including power:
Clark Hill Reservoir, Ga. and S. C.
John H. Kerr Reservoir, Va. and N. C.
Pensacola Reservoir, Okla.
Philpott Reservoir, Va.

(*c*) Other (including channel-improvement projects and miscellaneous maintenance items):
Mounds and Mound City, Ill.
Mouth of Sangamon River, Ill.
Bayou Pierre, La.
Sehewaing River, Mich.
Massillon, Ohio
Punxsutawney, Pa.
Tacoma, Wash.

GENERAL STATEMENT

Mr. RABAUT. Will you give us a general statement on this item, please?

General CHORPENING. Operation and maintenance consists of the funds required to take care of completed structures, and these funds are generally made up of salaries for the employment of personnel and necessary work in keeping the structures in shape and for operating powerhouse equipment and other parts of these structures.

DIRECT APPROPRIATION FOR EXPENDITURES

Mr. FORD. Could you explain why you have operation and maintenance funds in the budget for projects which are operated and from which the Federal Treasury receives funds?

Mr. BOUSQUET. The funds received from power or other revenues on these projects are deposited in the Federal Treasury as miscellaneous receipt and do not revert back to our appropriation, to become available for maintenance and operation of these projects, but such expenses have to be provided by direct appropriations.

Mr. FORD. Is that a desirable procedure, as against the possible procedure of having the revenue come to the project and then show the operating expenses deducted therefrom? In other words, set up a

special account for each project so we could see exactly what your operating expenses are.

Mr. BOUSQUET. I believe the present system, Mr. Ford, gives the Congress a closer control over the funds that we have available for maintenance and operation.

General CHORPENING. Furthermore, I can see where it would require setting up a considerable amount of additional bookkeeping, Mr. Ford. We do report to the Congress each year how much revenue is derived from our projects. That information is always available if desired.

Mr. FORD. But it does not give us sufficient facts to know how much revenue is being derived from any particular project for which we are asked to make an appropriation from which to pay operating and maintenance expenses.

General CHORPENING. We know how much power revenue comes from each of the projects, each individual project. Of course, as to the other benefits, such as flood control, there is no direct money returned. There is an estimate on damages prevented by structures in place.

Mr. FORD. The items under title (b) are those from which you receive revenue?

General CHORPENING. Yes.

Mr. FORD. In no other of the subheads do you receive any power revenue?

General CHORPENING. That is correct.

Mr. FORD. Would it be impractical to set up a chart showing the projects under title (b), the operation and maintenance money desired for those projects and the revenue derived from each of those projects?

General CHORPENING. Yes, we can do that. We will list in a table the estimated operations and the cost for each project, and show the percentage of the project allocable to power.

Mr. FORD. And the revenues.

General CHORPENING. And the revenues. You appreciate that some of those are just about now going into the operation and maintenance status and will probably show no revenue up to this time.

Mr. FORD. You can work out some descriptive analysis along that line.

General CHORPENING. Yes, sir.

Mr. BOUSQUET. Just for the 1 year; is that what you wish?

Mr. FORD. Yes.

Mr. BOUSQUET. Showing the list comparable to those in the estimate for fiscal year 1953.

(The information requested follows:)

Project	Operation and maintenance funds included in fiscal year 1953 budget	Initial commercial operation of power units through fiscal year 1953	Gross power revenue for fiscal year 1951	Allocation of project cost to power (percent) [1]
Bull Shoals Reservoir, Ark	$250,000	40,000 kws., June 1952 40,000 kws., August 1952 40,000 kws., October 1952 40,000 kws., November 1952		62
Narrows Reservoir, Ark	190,000	8,500 kws., June 1950 8,500 kws., September 1950	166,266	35
Norfork Reservoir, Ark	250,000	35,000 kws., June 1944 35,000 kws., February 1950	1,055,728	44
Allatoona Reservoir, Ga	225,000	36,000 kws., February 1950 2,000 kws., February 1950 36,000 kws., May 1950	905,970	79
Clark Hill Reservoir, Ga. and S. C.	30,000	40,000 kws., October 1952 40,000 kws., February 1953 40,000 kws., June 1953		91
Dale Hollow Reservoir, Tenn. and Ky.	235,000	18,000 kws., December 1948 18,000 kws., January 1949 18,000 kws., May 1953	785,700	[2] 67
Wolf Creek Reservoir, Ky	285,000	45,000 kws., October 1951 do 45,000 kws., December 1951 45,000 kws., March 1952 45,000 kws., August 1952 45,000 kws., November 1952		72
John H. Kerr Reservoir, Va. and N. C.	175,000	12,000 kws., September 1952 32,000 kws., October 1952 32,000 kws., November 1952 32,000 kws., November 1952 32,000 kws., February 1952 32,000 kws., April 1953 32,000 kws., June 1953		80
Denison Reservoir, Okla	$405,000	35,000 kws., July 1944 35,000 kws., September 1949	1,057,765	32
Fort Gibson Reservoir, Okla	190,000	11,250 kws., February 1953 do 11,250 kws., April 1953 11,250 kws., June 1953		[3]
Pensacola Reservoir, Okla.[4]	3,500			
Tenkiller Ferry Reservoir, Okla	100,000	17,000 kws., June 1953 do		[3]
Center Hill Reservoir, Tenn	280,000	45,000 kws., December 1950 45,000 kws., January 1951 45,000 kws., April 1951	766,800	69
Whitney Reservoir, Tex	115,000	15,000 kws., August 1952 do		27
Philpott Reservoir, Va	20,000	6,700 kws., December 1952 do 600 kws., December 1952		[3]
Total	2,753,500		4,738,229	

[1] Allocation studies are now in progress. Data shown is tentative and will be revised when studies are completed.
[2] Allocation based on present installation of two generating units.
[3] Tentative allocation of cost is not available.
[4] Project constructed by Grand River Dam authority.

REASONS FOR INCREASED COSTS

General CHORPENING. I would like to make one further statement, if I may, in reference to the previous matter: It will be noted that the amount this year has increased, and the increases are due primarily to two things: One, salary of civilian personnel has increased; and second, we have added more projects to be maintained.

Mr. FORD. And I would like to add one further comment, that with the increased salaries of those who work on the project, there has been no comparable increase in the rentals that have been charged for the facilities.

Surveys, Investigations, and Other Studies

Mr. Kerr. We will take up the next item, under surveys, investigations, and other study programs: (a) Preliminary examinations, survey and miscellaneous study programs.

There are several projects referred to. Will you make a statement about these items, General?

General Chorpening. These various items here consist of over-all survey investigation and study programs in connection with flood-control items. We will furnish a list of the projects or of the examinations and surveys similar to the list that we included last year.

At that time we made a close and reliable statement of the exact projects which we were prosecuting and proposed for the coming year; there will be variations from that program because there will be no doubt some more or less emergency resolutions or directives given to us for preliminary examinations or studies connected with the defense situation which should be prosecuted. We will list our expenditures for this work annually since 1946, and we will list the unobligated balances with the usual data.

(The information referred to follows:)

Status of funds for proposed 1953 flood-control survey program

	Total estimated cost	Funds available June 30, 1951	Percent complete June 30, 1951	Amount available November 1952	Fiscal year 1953
Passaic River, N. J.	$199,000	$159,000	80	0	$40,000
Delaware River 308 (preliminary examinations and surveys portion; remainder in examinations and surveys)	24,000	9,000	37	0	15,000
West Branch, Susquehanna River, Pa.	252,500	217,500	86	$5,000	30,000
Juniata River, Pa.	146,200	126,000	86	200	20,000
Smith Mountain Reservoir, Va.	10,500	500	5	0	10,000
Williamsport, Md. (Potomac River)	14,000	4,000	29	0	10,000
Neuse River between Smithfield and Wayne County line, North Carolina	11,000	8,500	77	0	2,500
Cape Fear River, N. C.	93,200	75,200	81	0	18,000
Reedy River and tributaries, vicinity of Greenville, S. C.	16,000	0	0	0	[1] 5,000
Streams in Martin County, Fla.	20,000	0	0	0	[1] 10,000
Withlacoochee River, Fla.	32,700	7,600	23	0	[1] 10,000
Coosa River, vicinity of Rome, Ga.	34,700	7,600	22	0	[1] 15,000
Apalachicola River (308 report, flood-control portion only)	25,000	2,500	10	0	[1] 10,000
Montgomery, Ala.	16,100	6,100	38	0	10,000
Selma, Ala.	15,000	2,000	13	0	13,000
Tombigbee River and tributaries, Alabama and Mississippi	151,000	121,400	80	10,000	[1] 10,000
Pearl River, Miss.	79,400	41,600	53	0	[1] 5,000
St. Francis River and tributaries, Arkansas	99,700	86,700	87	0	13,000
Sabine Lake at Port Arthur, Tex.	6,100	3,100	51	0	3,000
Trinity Bay soil-conservation district, Texas	87,700	26,700	31	0	[1] 20,000
Texas City, Tex.	26,300	3,300	13	0	23,000
Lower Rio Grande Valley, Tex.	55,000	5,500	10	2,000	[1] 10,000
Sabine River, Tex.	85,500	3,500	4	0	[1] 10,000
Trinity River, Tex.	155,900	46,100	29	0	[1] 20,000
San Jacinto River, Tex.	68,300	65,300	96	0	3,000
Arkansas River at Dodge City and Great Bend, Kans.	51,000	600	1	0	[1] 15,000
Purgatoire (Picket Wire) River, Colo.	48,400	28,800	60	0	20,000
Illinois River, Ill.	911,600	881,600	97	0	30,000
Kaskaskia River, Ill.	310,200	300,200	97	0	10,000
Paint Rock River, Ala.	25,400	5,400	19	0	20,000
Mississippi River, Missouri River to mile 300, agriculture areas	90,700	80,700	89	5,000	5,000
St. Louis and vicinity, Missouri	238,500	153,500	64	15,000	70,000
Des Moines River, Iowa	230,000	131,000	57	0	[1] 10,000
Iowa and Cedar Rivers, Iowa and Minn.	397,000	252,000	64	15,000	[1] 25,000
Red River of the North, Minn., S. Dak., and N. Dak.	65,000	14,500	22	0	[1] 30,000

[1] Additional funds required to complete.

Status of funds for proposed 1953 flood-control survey program—Continued

	Total estimated cost	Funds available June 30, 1951	Percent complete June 30, 1951	Amount available November 1952	Fiscal year 1953
Pembina River and tributaries, North Dakota	$95,000	$82,000	86	0	$13,000
Roseau River, Minn	114,600	99,600	87	$5,000	10,000
Minnesota River, Minn	242,500	189,600	78	0	[1] 25,000
Root River, Minn	79,200	62,200	79	7,000	10,000
Squaw and Little Tarkio Creeks, and Big Tarkio River, Mo	33,900	24,500	72	0	9,400
Nemaha and Little Nemaha Rivers, Kans. and Nebr	88,700	56,300	63	0	[1] 10,000
Missouri River, Leavenworth, Kans	4,000	0	0	0	4,000
Vermillion River, Frankfort, Kans	37,000	600	2	0	[1] 10,000
Lamine and Blackwater Rivers, Mo	51,000	15,400	30	0	[1] 30,000
Gasconade River, Newburg Branch, Mo	7,400	400	5	0	7,000
Kansas City Cut-off	15,000	0	0	0	15,000
Platte River, Nebr	264,500	115,100	44	0	[1] 30,000
Gering and Mitchell Valleys, Nebr	84,700	54,700	65	0	30,000
Perry Creek, Iowa	60,000	20,600	34	0	[1] 10,000
James River, N. Dak. and S. Dak	45,000	6,500	14	0	38,500
Lower Heart River, N. Dak	54,000	8,400	16	0	[1] 13,000
Cannonball River, N. Dak	40,200	33,200	82	0	7,000
Grand River, N. Dak	11,100	5,200	47	0	5,900
Big South Fork (Cumberland River), Ky. and Tenn	30,500	500	2	2,500	27,500
First Creek, Tenn	50,000	30,000	60	0	20,000
Ohio River, Cincinnati, Ohio	27,300	2,300	8	0	25,000
Wabash River and tributaries above mouth of White River, Ind	300,000	5,600	2	0	[1] 40,000
Bay Creek, Ill	29,000	0	0	0	[1] 10,000
Cache River, Ill	40,000	0	0	0	[1] 10,000
Koskosing River, Mt. Vernon, Ohio	33,000	3,000	9	0	30,000
Brush Creek, Princeton, W. Va	30,900	17,900	58	6,000	7,000
French Creek Basin, Pa	11,300	300	3	0	11,000
Chartiers Creek at Washington, Pa	36,800	5,800	16	0	[1] 20,000
Grand River and tributaries, Mich	180,000	9,800	5	0	[1] 25,000
All streams and rivers flowing into Lake Superior in Ashland, Bayfield, and Douglas Counties, Wis	26,700	19,700	74	0	7,000
Upper Kankakee River Basin, Ill. and Ind	124,000	30,700	25	0	[1] 10,000
Nine Mile Drain and Carlow Ditch, Mich	27,300	5,000	18	0	[1] 4,000
River Rouge, Mich	40,600	6,600	16	0	[1] 15,000
Maumee River, Ind. and Ohio	165,200	109,300	66	0	[1] 20,000
Tonawanda Creek and tributaries, New York	25,000	0	0	0	[1] 10,000
Gila River and tributaries, Arizona and New Mexico	708,500	603,500	85	0	[1] 32,000
All streams in San Diego and Imperial Counties flowing into Salton Sea, Calif	110,100	11,200	10	0	[1] 20,000
Santa Ynez River and tributaries, California	157,200	147,200	94	0	10,000
Sacramento-San Joaquin Delta	100,000	40,600	41	2,000	[1] 20,000
Carson River, Calif. and Nev	100,000	58,800	59	0	[1] 15,000
Truckee River, Calif. and Nev	175,000	130,500	75	0	[1] 15,000
Weber River, Utah	200,000	163,700	82	10,000	[1] 15,000
San Lorenzo Creek, Calif	58,500	51,100	87	0	7,400
Alameda Creek, Calif	101,600	6,600	7	0	[1] 25,000
Salinas River, Calif	299,900	271,900	91	8,000	20,000
Wailua River, Kauai, T. H	22,000	0	0	0	[1] 12,000
Nestucca River and tributaries, Oregon	26,400	11,400	43	0	15,000
Silvies River and tributaries, Oregon	89,300	58,500	66	0	30,800
Okanogan River, Wash	28,000	1,000	4	0	27,000
Chehalis River and tributaries, Washington	150,000	47,300	32	0	[1] 20,000
Grande Ronde Basin, Oreg	120,000	84,900	70	0	[1] 15,000
Powder River Basin, Oreg	40,000	5,300	13	1,000	[1] 25,000
Umatilla River Basin, Oreg	158,200	138,200	87	5,000	15,000
Touchet River Basin, Wash	25,100	4,100	16	0	21,000
Harbors and rivers of Alaska, preliminary examinations and surveys	775,000	622,000	80	0	[1] 100,000
Total	10,043,000	6,355,600		98,700	1,600,000

[1] Additional funds required to complete.

Flood control

Number of authorized flood-control investigations	471
Unobligated balance, June 30, 1951	[1] $810,364
Unobligated balance, Dec. 31, 1951	[1] 357,458
Estimated unobligated balance, June 30, 1952	[1] 5,000
Total estimated cost as of June 30, 1951	33,089,100
Total funds available as of June 30, 1951	16,977,900
Estimated remaining cost as of June 30, 1951	16,111,200

[1] Item includes flood-control contingencies.

Mr. FORD. Will the chart be identical with the one that was included in the record last year for the items you have designated?

General CHORPENING. Not quite.

Mr. FORD. Under this particular heading you are going to supply the material that was similar to that for rivers and harbors?

General CHORPENING. Yes, sir.

PRELIMINARY EXAMINATIONS, SURVEYS, ETC.

General CHORPENING. Mr. Chairman, I would like to make a statement in connection with the item, "Preliminary examinations and surveys of streams" on which reports have been authorized by the Congress.

Mr. KERR. We will be very glad to have your statement.

General CHORPENING. An amount of $1,600,000 is needed for fiscal year 1953 for continuation of the preliminary examination and survey report program for flood control.

In the fiscal year 1951 the program was curtailed in accordance with Presidential directives on civil works by the stoppage of reports not essential to future defense or related efforts.

Progress on essential reports for power development, for the protection of major industrial and food-producing areas, and for other purposes, outlined in the Presidential criteria, was accelerated as part of the national effort to meet the present emergency situation and strengthen the national economy. Additional funds for the continuation of these reports and the starting of new reports assigned by Congress, which have important bearings on the defense effort or essential civilian economy were not available during the fiscal year 1952 because all funds for the general program of preliminary examinations and surveys were eliminated in the Army civil functions appropriations bill for the fiscal year 1952.

USE OF UNEXPENDED FUNDS

Unexpended funds from prior-year appropriations are being used to complete a number of studies which were practically completed during fiscal year 1951 in order that the work thus far accomplished on those studies could be fully utilized. The elimination of funds, for the general program of investigation in fiscal year 1952 makes it imperative that funds be made available in fiscal year 1953 so that the reports that are essential to the defense effort and related civil economy can be carried forward.

If a great deal of the value of the work which has already been done on these reports is not to be lost, it is essential that funds be made available in the fiscal year 1953 so that as much as possible of the

work already accomplished can be salvaged and the important reports carried to completion.

GENERAL FLOOD INVESTIGATIONS

I would also like to make a general statement on the item, general flood investigations.

These investigations include the collection of current flood data pertaining to serious floods of streams for which formal reports have not been specifically directed by the Congress. The data collected in these investigations consist of precipitation data, flood damage data, records of flood flows and flood heights, and similar data of hydrologic nature.

It is imperative that these data be collected during and immediately following the occurrence of a serious flood. Extensive use is made of the information in connection with hydrologic features of all reports prepared in subsequent years. This work also includes the preparation of reconnaisance reports on flood conditions for other Federal agencies and for Members of Congress.

Mr. FORD. You want $1,600,000 for preliminary examinations and surveys, and in addition to that you are requesting $500,000 for storm studies and general hydrologic investigations; and $100,000 for general flood investigations.

General CHORPENING. That is correct.

TRANSFER OF FUNDS TO WEATHER BUREAU

Mr. FORD. Then another $500,000 for transfer to the Weather Bureau for hydrometeorological studies and hydrologic network of precipitation stations.

General CHORPENING. That is correct.

Mr. KERR. In other words, you are authorized by law to do certain things, and pursuant to the law you make these reports and you are submitting an estimate of the funds that will be necessary to carry out that work?

General CHORPENING. That is correct.

Mr. KERR. Is there anything further you would like to add?

COLLECTION OF WEATHER DATA

General CHORPENING. I would like to make a further statement in connection with the work of the Weather Bureau.

The objective of the hydrologic network of precipitation stations has been to supplement the network of meteorological stations with additional precipitation stations particularly of the continuous recording type, so as to provide the Corps of Engineers with a density of stations and type of record which would be adequate for present and future developments of water resources.

While required and fully justified for flood-control activities, the program is also partially satisfying a long existing deficiency in recording precipitation data. These data, for which there is no substitute, are used by all Federal, State, and other agencies, and individuals dealing with water resources.

As with all hydrologic data, the value of the records is largely dependent upon uninterrupted station operation.

In addition to reviewing the meteorological aspects of the storm study data, designated in a preceding paragraph, utilized by the Corps of Engineers in planning, design, and operation of water-control structures, the hydrometeorological section of the Weather Bureau has developed the new and unique science of estimating maximum possible precipitation.

These studies provide the basic meteorological data needed to insure the adequacy of large structures, whose failure would result in disastrous loss of life and property.

The amount of $500,000 is needed during fiscal year 1953 for transfer to the Weather Bureau in order to continue these programs.

In addition to this amount, an amount of $108,000 will be transferred to the Weather Bureau from funds budgeted elsewhere for authorized projects.

Mr. KERR. Is there anything else you want to tell us about this item?

General CHORPENING. We will list the appropriation for this item of the transfer of funds to the Weather Bureau for the past 5 years in the record.

(The information referred to follows:)

Funds which have been transferred to the United States Weather Bureau from "Flood control, general," appropriations during the past 5 years are as follows:

Fiscal year:	
1948	$516,500
1949	530,800
1950	537,505
1951	564,600
1952	464,989
Total	2,614,394

ARKANSAS-WHITE AND RED RIVER BASIN SURVEY

Mr. KERR. Will you turn next to the Arkansas-White and Red River Basin survey.

General CHORPENING. Funds in the amount of $1 million are required for continuation of the comprehensive investigation of the Arkansas, White, and Red River Basins.

This investigation was authorized by the Flood Control Act of 1950 for the purpose of determining integrated plans for development of all water resources of the basins. At the direction of the President, all Federal agencies involved in river basin development, as well as the States concerned, are cooperating in the investigation under the chairmanship of the Corps of Engineers.

The date of June 30, 1954, has been set for completion of the report. The amount of $631,600 was expended by the Corps of Engineers in the fiscal year 1951. For fiscal year 1952, the amount of $400,000 was appropriated. This was only one-half of the amount needed to carry forward the investigation on schedule. In order to meet the scheduled date of completion it will now be necessary to operate at a considerably accelerated rate over that for fiscal year 1952.

INTERDEPARTMENTAL COORDINATION

It is important to note in connection with this item that the amount that we have received herein has been coordinated by the Bureau of the Budget with similar expenditures for the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Public Health Service. It is quite important that the program of all agencies be kept in step, and since the Corps of Engineers is the chairman agency, that the work progress at a uniform rate.

Mr. KERR. The $1 million you are requesting now is for investigation of the Arkansas, White, and Red River Basins provided by law.

General CHORPENING. Yes, sir; for a comprehensive investigation under the special act of Congress of 1950.

Mr. FORD. I believe that the data to be submitted by the Corps of Engineers will sufficiently answer my inquiries.

NEW ENGLAND-NEW YORK SURVEY

Mr. KERR. Will you take up the item for New England-New York survey, and give us a statement on that?

General CHORPENING. The same general comment that has just been made in connection with the Arkansas, White, and Red River Basin surveys apply to this survey.

Funds in the amount of $800,000 are required for continuation of the survey of the resources of the New England-New York region. This investigation was authorized by the Flood Control Act approved May 17, 1950, the President's directive to the Secretary, Department of the Army, dated October 9, 1950, and resolution adopted by the Federal Interagency River Basin Committee on October 27, 1950.

Membership consists of one representative each of the Departments of Agriculture, Army, Commerce, Interior, the Federal Power Commission, and the Federal Security Agency, with the Department of the Army the chairman agency.

The survey is being conducted in cooperation with the governors of the seven States participating in the survey. Scheduled completion date for the survey report is June 30, 1954.

In the fiscal year 1951, $366,600 was expended by the Corps of Engineers; for fiscal year 1952, the amount of $400,000 was appropriated. This was only one-half of the amount needed to carry forward the investigation on schedule, and in order to meet the scheduled date of completion it will now be necessary to operate at a considerably accelerated rate over that for fiscal year 1952.

Mr. KERR. You are asking for this amount to take care of the scheduled work and to meet the requirements of the law.

General CHORPENING. To meet the requirements of the law and to complete the report on the date that has been given to us.

COMPARISON TO 308 REPORT

Mr. FORD. Will the reports, both as to New England-New York surveys, and the surveys for Arkansas, White and Red River Basins be comparable to the 308 report?

General CHORPENING. Comparable in a way, but much more complete than the 308 studies, in that in these studies, all of the agencies

of Government that I have just enumerated, as well as the States take part.

Mr. FORD. I hope the interest of the States in the project will also be shown when the time comes for the appropriation.

Do you have any idea how much the total cost of all the projects covered in these two reports might amount to if and when they are recommended?

General CHORPENING. No; not as yet. It is still some 2½ years before the report is to be completed and submitted, and at this stage it would be nothing but the wildest kind of an estimate.

STREAM GAGING PROGRAM

Mr. RABAUT. Under "Flood control, general," surveys, investigations and other study programs, is an item for stream gaging program. Will you give us a general statement on that?

General CHORPENING. This is a request for funds to be transferred to the Geological Survey for expenditure by them on particular stream gaging that we request and need for our own projects.

The United States Geological Survey measures the flow of the streams, and it would be unwise and uneconomical for us to set up a group to do the same work.

Mr. RABAUT. Will you list the number of stations maintained each year during the last 5 years?

General CHORPENING. Yes, sir.

Mr. RABAUT. Separating those that are maintained as between the Geological Survey, on the one hand, and those operated from funds of the Corps of Engineers.

General CHORPENING. Yes, sir.

(The information requested follows:)

Fiscal year	Operated by Corps of Engineers [1]	Operated by USGS without Corps of Engineers' assistance	Operated by USGS with financial assistance of Corps of Engineers
1948	[2]	4,299	1,555
1949	[2]	4,315	1,627
1950	[2]	4,799	1,686
1951	[2]	4,813	1,691
1952	828	4,998	1,580

[1] The table shows 828 stream-gaging stations operated by the Corps of Engineers in 1952 about half these stations are located in the lower Mississippi Valley division and some of them are not standard stream-gaging stations, but are operated for a number of miscellaneous purposes. The stream-gaging programs carried on directly by the district offices are local in nature and directly related to investigational and operational problems of the districts. Accordingly, no summary records have been maintained in the past since these stations are not part of any over-all program.

[2] Not available.

UNEXPENDED BALANCES

Mr. FORD. Will you also supply a chart showing the unexpended balances?

Mr. BOUSQUET. Last year, when the appropriations were made, we transferred small sums to them for several weeks to enable them to meet their current demands, so I do not believe they have any unexpended balances.

Reimbursable Obligations

Mr. Rabaut. Give us a general statement on the type of work covered under your reimbursable obligation schedule.

General Chorpening. That is for work that we perform for other agencies where they pay us for doing that particular type of work. In other words, we do work for the Navy in dredging out certain channels for them.

Mr. Rabaut. You do some work for the Navy.

Mr. Bousquet. And for other Federal agencies that desire us to do work which is done on a reimbursable basis.

Mr. Rabaut. For instance, on page 408, the first item, Corps of Engineers, the actual obligations for 1951, $446,996; the estimated obligations for 1952, $770,000, and the estimate for fiscal year 1953 is the same figure, $770,000.

Do you have a general statement covering items 1 and 2, on page 408, and 3—that is for the Air Force.

Mr. Bousquet. The same general statement applies to each of the others.

Mr. Rabaut. In each of these categories.

Mr. Bousquet. Yes, sir.

Mr. Rabaut. One is military functions, Corps of Engineers.

Mr. Bousquet. Yes, sir.

Mr. Rabaut. No. 2, Army military functions; and No. 3 is for the Department of the Air Force.

Mr. Bousquet. Yes, sir.

Mr. Rabaut. No. 4 is for other Federal agencies.

Mr. Bousquet. Yes, sir.

Non-Federal Agencies

Mr. Rabaut. What about No. 5, non-Federal agencies: You had an actual obligation for 1951 of $124,003; in 1952 fiscal year, you have $766,000; and the estimate for fiscal 1953 is the same, $766,000. What are these non-Federal agencies?

Mr. Bousquet. For instance, sometimes a city or an organzation wants us to do work, when we have the equipment in the general area, they ask us to do certain work for them on a reimbursable basis.

General Chorpening. This is in the nature of a bookkeeping transaction.

Mr. Rabaut. The previous items were under major capital outlays. Coming now to current expenses on page 409, operation and maintenance, (*a*) flood-control reservoirs, including multiple purposes other than power. First, other Department of the Army military functions, and the same thing applies there as you have just stated above?

General Chorpening. That is correct.

Mr. Rabaut. The money is for work done on a reimbursable basis?

General Chorpening. Yes, sir.

Mr. RABAUT. The work is done and you are reimbursed from other departments or agencies.

General CHORPENING. Yes, sir.

Mr. KERR. You are authorized by law and you have to do this work and you make this request to carry out that requirement?

General CHORPENING. Yes, sir. It is the proper and economical thing for us to do the work for other agencies, and this is simply the method of adjusting the books.

Mr. RABAUT. In other words, under the multiple-purpose reservoir projects, which include power, as indicated on page 409, there are five items here where a local town or some agency such as you have referred to asks you to do work, and the amount set up is on a similar basis, reimbursable to the Corps of Engineers.

General CHORPENING. Yes, sir.

Mr. RABAUT. And under current expenses, flood-control reservoirs, including multiple purposes other than power, this falls in the same category.

General CHORPENING. In the same category; yes, sir.

Mr. RABAUT. Or non-Federal agencies, estimated for 1952 was $7,500 and the same for 1953.

General CHORPENING. Yes; this is for the same type of reimbursable items previously indicated.

Mr. RABAUT. The pages beginning on page 408 through 411 will be inserted in the record.

Mr. RABAUT. Very well, 407, as well.

(The statements referred to follow:)

Standard classification schedule for reimbursable obligations

	By objects of expenditure	Actual obligations, fiscal 1951	Estimated obligations, fiscal year 1952	Estimate, fiscal year 1953
01	Personal services, civilian	$2,087,703	$3,390,000	$3,390,000
02	Travel	40,810	80,000	80,000
03	Transportation of things	7,376	10,000	10,000
04	Communication services	8,476	8,000	8,000
05	Rents and utility services	252,057	550,000	580,000
07	Other contractual services	796,901	1,500,000	1,500,000
08	Supplies and materials	274,921	600,000	618,500
09	Equipment	176,761	150,000	150,000
10	Lands and structures	153,937	1,028,500	1,060,000
15	Taxes and assessments	1,450	3,500	3,500
	Total obligations payable out of reimbursements from other accounts	3,800,392	7,320,000	7,400,000

Summary of reimbursable obligations by projects

Project number	Purpose of project	Actual obligations fiscal year 1951	Estimated obligations fiscal year 1952	Estimate fiscal year 1953
(1)	(2)	(3)	(4)	(5)
	MAJOR CAPITAL OUTLAY			
1	Construction:			
	(a) Local protection:			
	(1) Corps of Engineers (military functions)	446,996	770,000	770,000
	(2) Other Department of the Army military functions	170,214	330,000	330,000
	(3) Department of the Air Force	675,035	1,000,000	1,000,000
	(4) Other Federal agencies	202,428	400,000	420,000
	(5) Non-Federal agencies	124,003	766,000	766,000
	(b) Flood-control reservoirs (including multiple purposes other than power):			
	(1) Corps of Engineers (military functions)	481,171	688,000	700,000
	(2) Other Department of the Army military functions	270,932	540,000	550,000
	(3) Department of the Air Force	584,053	800,000	800,000
	(4) Other Federal agencies	55,155	100,000	110,000
	(5) Non-Federal agencies	206,083	618,000	620,000
	(c) Multiple-purpose reservoir projects which include power:			
	(1) Corps of Engineers (military functions)	65,423	120,000	120,000
	(2) Other Department of the Army military functions	137,398	270,000	283,000
	(3) Department of the Air Force	161,665	320,000	320,000
	(4) Other Federal agencies	20,875	40,000	40,000
	(5) Non-Federal agencies	164,420	492,000	506,500
2	Planning (Corps of Engineers, military functions)	22,538	45,000	45,000
	CURRENT EXPENSES			
1	Operation and maintenance:			
	(a) Flood-control reservoirs (including multiple-purposes other than power):			
	(1) Other Department of the Army military functions	2,750	7,000	7,000
	(2) Non-Federal agencies	4,026	7,500	7,500
2	Surveys, investigations, and other study programs:			
	(a) Preliminary examinations, surveys, and other miscellaneous study programs:			
	(1) Corps of Engineers (military functions)	1,726	5,000	5,000
3	Administration (salaries, Office, Chief of Engineers, allotment roll) (other Federal agencies)	3,501	1,500	0
	Total obligations payable out of reimbursements from other accounts	3,800,312	7,320,000	7,400,000

Justification of reimbursable obligations by source

Agency	Actual fiscal year 1951	Estimate fiscal year 1952	Estimate fiscal year 1953
1. Corps of Engineers (military functions)	$1,017,854	$1,628,000	$1,640,000
2. Other Department of the Army military functions	581,294	1,147,000	1,170,000
3. Department of the Air Force	1,420,753	2,120,000	2,120,000
4. Other Federal agencies	281,959	541,500	570,000
5. Non-Federal sources	498,532	1,883,500	1,900,000
Total obligations payable out of reimbursements from other accounts	3,800,392	7,320,000	7,400,000

The Corps of Engineers is called upon by other agencies of the Federal Government and by various non-Federal interests to perform services requiring engineering ability, equipment, and experience. If the total cost is not too large, these services are usually performed with available funds and reimbursement requested after final costs have been determined. The agencies from

which substantial reimbursements are received for credit to this appropriation and the general nature of the work performed are as follows:

Agency:	*Nature of work*
Corps of Engineers military functions and other Department of the Army military functions.	Design, surveys engineering services; procurement and inspection of military supplies and equipment; rental of equipment; turf investigations.
Department of the Air Force.	Furnishing of supplies, engineering and design services, airfield investigation, and soils tests.
Non-Federal sources	Contract construction, sales of property, salvage, blueprints, furnishing of utility services.

FLOOD CONTROL, GENERAL (EMERGENCY FUND)

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate	$8,700,000	$10,000,000	$10,000,000
Transferred from "Flood control, general," pursuant to Public Law 843	1,000,000		
Adjusted appropriation or estimate	9,700,000	10,000,000	10,000,000
Prior year balance available	4,114,612	7,685,261	
Total available for obligation	13,814,612	17,685,261	10,000,000
Balance available in subsequent year	−7,685,261		
Obligations incurred	6,129,351	17,685,261	10,000,000
Comparative transfer from "Flood control, general"	124,391	96,255	
Total obligations	6,253,742	17,781,516	10,000,000

Obligations by activities

Emergency flood-control work:	
1951	$6,253,742
1952	17,781,516
1953	10,000,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Total number of permanent positions	310	947	522
Full-time equivalent of all other positions	72	153	107
Average number of all employees	367	1,055	604
Average salaries and grades:			
General schedule grades:			
Average salary	$4,045	$4,565	$4,488
Average grade	GS–6.3	GS–6.1	GS–6.1
Crafts, protective, and custodial grades:			
Average salary	$3,073	$3,400	$3,417
Average grade	CPC–5.3	CPC–4.7	CPC–4.7
Ungraded positions:			
Average salary	$3,065	$3,042	$3,050
01 Personal services:			
Permanent positions	$1,145,248	$3,753,586	$2,109,898
Part-time and temporary positions	189,868	395,000	275,000
Regular pay in excess of 52-week base		14,414	8,102
Payment above basic rates	123,485	283,000	160,000
Total personal services	1,458,601	4,446,000	2,553,000
02 Travel	62,181	178,000	102,000
03 Transportation of things	24,233	85,000	80,000
04 Communication services	16,584	30,000	25,000
05 Rents and utility services	185,179	350,000	300,000
06 Printing and reproduction	506	600	550
07 Other contractual services	3,767,290	10,835,436	5,361,290
08 Supplies and materials	427,522	1,500,000	1,250,000
09 Equipment	311,261	350,000	325,000
15 Taxes and assessments	385	6,480	3,160
Total obligations	6,253,742	17,781,516	10,000,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$1,088,741	$1,313,459	$3,998,720
Obligations incurred during the year	6,129,351	17,685,261	10,000,000
	7,218,092	18,998,720	13,998,720
Deduct unliquidated obligations, end of year	1,313,459	3,998,720	3,998,720
Total expenditures	5,904,633	15,000,000	10,000,000
Expenditures are distributed as follows:			
Out of current authorizations	5,904,633	6,000,000	4,000,000
Out of prior authorizations		9,000,000	6,000,000

Mr. RABAUT. The estimated total for the several projects under "Flood control, general emergencies" for the fiscal year 1952 was $10 million; and the estimate for 1953 is $10 million.

ALLOCATIONS IN 1952

Will you list the allocations to date in fiscal year 1952 from this fund?

General CHORPENING. Yes, sir.

(The information requested follows:)

Unallocated from prior year appropriations	$6,173,545
Appropriation contained in fiscal year 1952 appropriaton act	10,000,000
Total available for fiscal year 1952	16,173,545
Allocations from prior year appropriations:	
Arkansas River, Dardanelle, Ark	10,086
Reclamation district No. 2025, Holland tract, California	7,000
Emergency flood-control work, Sacramento district, California	13,193
Stanislaus River near Ripon and River Bank, Calif	73
Gunderson location, Snake River, Idaho	1,300
Miller location, Snake River, Idaho	500
Hall location, Snake River, Idaho	19,500
Texas feeder location, Snake River, Idaho	200
Sunnydell Canal location, Snake River, Idaho	200
Kootenai Flats area, Kootenai River, Idaho	97,814
Emergency flood-fighting operations, Kootenai River, Idaho	2,712
Indian Grave drainage district, Illinois	35,000
Lima Lake drainage district, Illinois	6,500
Clear Lake drainage district, Illinois	4,780
Vinna S. Mead and Eaton levees, Illinois	14,400
Lynn levee, Illinois	6,200
Clear Lake special drainage district, Illinois	620
Left Twohig levee, Mackinaw River, Ill	2,000
Right Cassell levee, Mackinaw River, Ill	1,400
Right H. Hymbaugh levee, Mackinaw River, Ill	4,800
Right Franks levee, Mackinaw River, Ill	3,200
Left Moorhead levee, Mackinaw River, Ill	3,000
Right L. Bolliger levee, Mackinaw River, Ill	4,500
Left Fluegel and Right Iungerich No. 3 levee, Mackinaw River, Ill	2,600
Right Iungerich No. 2 levee, Mackinaw River, Ill	5,000
Left Iungerich No. 1 levee, Mackinaw River, Ill	2,000
Left Hoffman levee, Mackinaw River, Ill	4,200
Left Linkin-Stout levee, Mackinaw River, Ill	3,300
Right F. Tyrrell Nos. 1 and 2 levees, Mackinaw River, Ill	6,000
Swope-L. C. Tomblin levees, Sangamon River, above Salt Creek, Ill	3,000

Allocations from prior year appropriations—Continued	
E. J. Cullinan levee, Mackinaw River, Ill	$4,837
Hanes levee, Mackinaw River, Ill	2,552
Mura levee, Mackinaw River, Ill	4,144
Hunt drainage district, Hancock County, Ill	28,000
South Quincy drainage district, Adams County, Ill	20,000
Emergency flood fighting, Rock Island district	91,000
Sumava resorts, Kankakee River, Newton County, Ind	16,500
Monona-Harrison ditch and Little Sioux River levees, Iowa	275,000
Muscatine Island levee district, Muscatine and Louisa Counties, Iowa	105,000
Emergency flood-control work, Kansas City district	3,075,040
Wilroads Gardens drainage district of Ford County, Kans	4,600
Emergency flood-fighting operations, Louisville district	29,000
Ouachita River levee in the vicinity of Rilla, La	46,000
Long Point levee, Caddo levee district Red River, La	14,487
Emergency flood-control work, Baltimore district	9,063
Emergency flood-control work, St. Paul district	44,793
Emergency floor-control work, St. Louis district	1,020,000
Mississippi and Fox Rivers drainage district, Missouri	11,200
Emergency flood-fighting operations, Omaha district	30,200
Coulthard levee, Missouri River, vicinity of Blair, Nebr	3,000
New Beck and Rand-Peterson levee, Missouri River vicinity of Blair, Nebr	105,000
McCartney levee, Missouri River vicinity of mouth of Platte River, Nebr	1,400
Emergency flood-control work, Tulsa district	869,000
Catherine Creek vicinity of Union, Oreg	2,206
Lycoming Creek at Williamsport, Pa	7,175
Mississippi River, Dyer County levee, Tennessee	30,000
Emergency flood-fighting, Fort Worth district	3,936
Emergency flood-control work, Seattle district	25,000
Winthrop fisheries station, Methow River, Wash	1,719
Lumni diking district Nooksach River near Ferndale, Wash	2,765
Emergency flood-fighting Huntington district	15,550
Drury drainage district, Rock Island County, Ill	3,600
Des Moines and Mississippi levee district No. 1 Missouri	3,200
Indian Grave drainage district, Adams County, Ill	3,500
Total	6,173,545
Allocations from fiscal year 1952 appropriation:	
Miller County levee district No. 2, Red River, Ark	80,000
Paradise Dam, San Joaquin River, Calif	30,000
Mrs. L. Rose levee, Spoon River, Ill	600
Cullinane levee, Spoon River, Ill	1,700
V. M. Dickson levee, Spoon River, Ill	3,300
Barret-Swain levees, Spoon River, Ill	5,200
F. Gandy levee, Spoon River, Ill	1,000
Ingersoll levee, Spoon River, Ill	3,300
F. Littlejohn levee, Spoon River, Ill	2,100
O. Burrows levee, Spoon River, Ill	1,800
D. W. Velde levee, Mackinaw River, Ill	2,300
Meyer levee, Mackinaw River, Ill	1,700
Carrier levee, Mackinaw River, Ill	2,200
A. Morris-L. Cullinan levees, Mackinaw River, Ill	4,000
A. Connell levee, Mackinaw River, Ill	2,200
L. Connell-L. Billmeyer levees, Mackinaw River, Ill	9,300
Kahler-Dixon levees, Mackinaw River, Ill	4,100
Ingram levee, Mackinaw River, Ill	6,000
D. Morris levee, Mackinaw River, Ill	4,400
Judy-Dunham-Gedewaldt-Johnson-Lay levees, Mackinaw River, Ill	9,500
Beutler levee, Mackinaw River, Ill	1,000
Maurer-Woodrow levees, Mackinaw River, Ill	4,600
Haning levee, Mackinaw River, Ill	2,000
Murphy Estate-Vawter levees, Mackinaw River, Ill	1,200

Allocations from fiscal year 1952 appropriation—Continued

Bouris-Hinman levees, Mackinaw River, Ill	$3,000
Littlefield levee, Mackinaw River, Ill	2,000
Trimble levee, Mackinaw River, Ill	4,600
Weishaupt levee, Mackinaw River, Ill	1,300
Hild levee, Mackinaw River, Ill	1,300
Speece levee, Mackinaw River, Ill	1,100
Emergency flood-control work, Kansas City district	9,132,500
Arkansas River levee near Garden City, Kans	20,900
Bargetown levee, Caddo levee district, Red River, La	25,000
Long Point levee, Caddo district, Red River, La	8,500
Des Moines and Mississippi levee district No. 1, Missouri	31,400
Mississippi and Fox Rivers drainage district, Missouri	1,500
Perry County levee district No. 1, Arkansas	10,000
San Lorenzo Creek, Alameda County, Calif	5,000
Alameda Creek, Alameda County, Calif	40,000
Emergency flood-fighting operations, Ohio River Division	25,000
Arkansas City, Kans.[1]	100,000
South Beardstown drainage and levee district, Illinois River, Ill	5,500
Condon private levee, Cherokee County, Kans.[1]	1,400
Bowersox private levee, Montgomery County, Kans.[1]	2,100
Kaufman County levee improvement district No. 4, East Fork, Trinity River, Tex	30,600
Velarde Valley, Rio Grande River, N. Mex.[1]	71,000
Pend Oreille River near Cusick, Wash.[1]	3,500
Scholfield Creek levee at Reedsport, Umpqua River, Oreg.[1]	24,000
Yakima River below Ellensburg, Wash.[1]	11,500
Catching inlet drainage district, Coos River, Oreg.[1]	35,000
Wilson River in the vicinity of Highway 101, Tillamook, Oreg.[1]	30,000
State line levee, Red River, Long Prairie levee district, Arkansas and North Bossier levee district, Louisiana, in the vicinity of the Arkansas-Louisiana State line[1]	60,000
Westdale levee, Red River, Red River-Bayou Pierre levee district, approximately 44 miles below Shreveport, La.[1]	15,000
Cockfield levee, Red River, Cane River levee drainage district, approximately 65 miles above Alexandria, La.[1]	27,000
Emergency flood-control work, San Francisco district[1]	10,000
North Fork, Stillaguamish River, near Oso, Wash.[1]	20,500
Emergency flood-fighting operations, Rock Island district[1]	34,300
Mouth of Galpin Coulee, downstream from Fort Peck, Mont.[1]	2,000
Emergency flood-fighting operations, Albuquerque district[1]	20,000
	10,000,000

[1] Pending.

Mr. RABAUT. Will you list the unobligated balances under this head for each of the last 3 years.

General CHORPENING. Yes, sir.

(The information requested follows:)

Unobligated balances for flood control, general, emergencies for each of last 3 years are as follows:

Fiscal year 1949	$6,834,802
Fiscal year 1950	4,114,612
Fiscal year 1951	7,685,261

EXPENDITURES CONTEMPLATED, KANSAS AREA

Mr. RABAUT. What expenditures have you had to make or do you contemplate making in the Kansas area from this fund?

General CHORPENING. We have made very considerable expenditures out of this fund to repair the levees and other flood-control works that were damaged in the great Kansas flood of 1951.

As a matter of fact, the wisdom of Congress in setting up this fund was amply proved by the experience that we had last year, in that with the funds available we were able to immediately take necessary and effective action in handling rescue work during the flood and to rapidly take steps to repair the works after the flood. I do not believe it is generally known, but high water again came down the Kansas River within a few months after the great flood, and with the use of those funds we were able to make temporary repairs and stop further damage at that time.

Mr. KERR. Do you contemplate in 1952 you will spend the $10 million under the estimate as is requested?

General CHORPENING. Yes, sir; the fund was set up by an act of Congress as a $15 million revolving fund that was to be replenished each year. Actually with the expenditures made and to be made that we know about this year, the fund will be entirely depleted.

Mr. FORD. Do I understand that the charts that were included last year on page 617 through 621 will be included and brought up to date?

As I recall you spent a considerable amount of money as a result of the Missouri-Kansas floods, and I think it would be helpful to have that chart on pages 617 through 621 brought up to date.

General CHORPENING. Yes; that will be provided.

(The charts requested are on p. 510.)

AVAILABLE BALANCE FOR 1952

Mr. FORD. What is the available balance, if any, for 1952 which has not been obligated?

General CHORPENING. I will have to check the amount that has not been obligated. The balance in my office is very small at this moment. We have allotted these funds, as I explained, in connection with the repair work at the Kansas Citys. Some work has been placed under contracts and other work is still to be placed under contract. There are some funds, therefore, that are still unobligated. (The unobligated balance, December 31, 1951, was $4,351,089.)

Mr. FORD. Would there be funds on hand for whatever is necessary out in Ohio flood areas?

General CHORPENING. No, sir; with the estimated cost of items-already-allotted funds we would not have enough money to even complete the required works on the Kansas River without additional funds.

FLOOD CONTROL, SACRAMENTO RIVER, CALIF.

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate	$2,016,500	$1,000,000	$1,000,000
Prior year balance available	364,267	451,142	
Total available for obligation	2,380,767	1,451,142	1,000,000
Balance available in subsequent year	−451,142		
Obligations incurred	1,929,625	1,451,142	1,000,000

Obligations by activities

Construction of local flood-protection works:	
1951	$1,929,625
1952	1,451,142
1953	1,000,000

Obligations by objects

	Object classification	1951 actual	1952 estimate	1953 estimate
	Total number of permanent positions	98	88	72
	Full-time equivalent of all other positions	5	5	5
	Average number of all employees	100	90	73
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$3,994	$4,302	$4,312
	Average grade	GS-6.1	GS-6.2	GS-6.2
	Ungraded positions: Average salary	$3,634	$3,775	$3,790
01	Personal services:			
	Permanent positions	$317,799	$289,688	$232,906
	Part-time and temporary positions	20,148	20,200	20,200
	Regular pay in excess of 52-week base		1,112	894
	Payment above basic rates	33,645	30,000	26,000
	Total personal services	371,592	341,000	280,000
02	Travel	5,327	5,000	4,000
05	Rents and utility services	60,728	45,000	40,000
06	Printing and reproduction	3,056	3,000	2,000
07	Other contractual services	1,063,147	677,300	517,000
08	Supplies and materials	6,272	5,000	4,000
10	Lands and structures	418,897	373,642	151,900
15	Taxes and assessments	606	1,200	1,100
	Obligations incurred	1,929,625	1,451,142	1,000,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$1,900,327	$1,194,535	$645,677
Obligations incurred during the year	1,929,625	1,451,142	1,000,000
	3,829,952	2,645,677	1,645,677
Deduct unliquidated obligations, end of year	1,194,535	645,677	545,677
Total expenditures	2,635,417	2,000,000	1,100,000
Expenditures are distributed as follows:			
Out of current authorizations	2,635,417	600,000	600,000
Out of prior authorizations		1,400,000	500,000

Mr. RABAUT. We will take up next the item "Flood control, Sacramento River, Calif." This is a project with an estimated Federal cost of $61,060,000, and the allotments to date have been $42,811,500; the appropriation for fiscal year 1952 was $1 million, and the tentative allocation for fiscal year 1953 is $1 million.

This project as of the close of fiscal year 1952 will be 70 percent completed and the 1953 money will bring that rate to 72 percent.

Will you give an explanation of what you have done with the money secured last year, and what you expect to do with the funds requested this year, General?

General CHORPENING. Mr. Rabaut, last year you will recall that Mr. Brennan of my office made a very complete statement in connection with this project. He is thoroughly familiar with it, and I am going to have him answer the questions of the committee.

Mr. BRENNAN. Mr. Rabaut, the money for fiscal year 1952 was for bank structures and levees, as indicated on pages 437 and 438. We propose to use the $1 million requested for fiscal year 1953, for levees, emergency bank protection, and a small amount for maintenance and stream gaging, and some for engineering and design, as indicated on page 438 of the justifications.

INCREASED COST ESTIMATE

Mr. RABAUT. What is the reason for the increase in the estimated cost in the amount of $5.4 million?

Mr. BRENNAN. The $5,425,000 is the increase in cost from last year. The fiure of $55,635,000 was explained in the hearings last year as the cost estimate at that time. The increase since that time is made up of the following amounts:

The cost on June 30, 1950, was $38,382,000; and the estimate for the entire project at that time, as explained last year, was $55,635,000, leaving a difference of $17,253,000 as the estimated cost to complete as of June 30, 1950.

The price increase from June 30, 1950, to June 30, 1951, was in the neighborhod of 6 percent, and applying the 6 percent to the cost to complete of $17,253,000 gives the figure of $1,035,000.

Mr. RABAUT. Last year you had stated the project would be 75 percent complete at the end of 1951. Now we find it was actually only 69 percent. Just when will this project be completed?

Mr. BRENNAN. Due to the fact the cost estimates went up, of course the percentage of completion went down.

Mr. RABAUT. Very understandable and a good answer, but when will it be completed?

Mr. BRENNAN. It will be completed when the entire amount left is appropriated, $19 million, plus an amount of $600,000 a year additional funds for further costs each year between 1956 and the time of completion of the project.

You may recall, Mr. Rabaut——

Mr. RABAUT. What is the basis of the $600,000 request?

Mr. BRENNAN. It amounts to the cost of bank protection work and the cost of maintenance which is an obligation of the Federal Government during the time the project is not turned over to local interests.

As you may recall, the Federal Government is obligated to undertake certain maintenance until the entire project is turned over to the local people. And as soon as the project is turned over to the local people, and we are completely through with it, we will save approximately $600,000 a year. We will still be obligated to maintain the navigation channel in the lower stretches of the river, but the major part of maintenance is represented by cost of bank protection and levees, and that sort of thing which we will be able to turn over completely to local interests. And as the project goes on, the cost increases about $600,000 a year. If the project could be stopped now or could be completed next year, we would save that amount each year.

So it is rather difficult to answer the question as to the date of completion of the project, because until it is completed, the local interests will be saving the amount of maintenance that otherwise they would have to spend themselves.

Mr. RABAUT. As I understand it this is a program that calls for a certain amount of money each year during its progress and in the maintenance stage, for expenditure by the Federal Government which will remain until it is completely turned over to local interests.

Mr. BRENNAN. That is correct, sir.

Mr. RABAUT. Why is it, then, that there is only $1 million set up in this program for 1953 and we have some $17 million held up for sums to be paid out after the close of fiscal yer 1953?

Mr. BRENNAN. I would like to say that was presented to the——

Mr. RABAUT. Well, I will ask the question this way: How much did you request of the budget, first, below ceiling, and next, above ceiling?

Mr. BRENNAN. The budget request was $1 million within ceiling and $4 million over ceiling.

Mr. RABAUT. You got just exactly what you asked for. Why did you not ask for more?

Mr. BRENNAN. The amount within ceiling, sir?

General CHORPENING. The ceiling was set at such figure, that after looking over all the projects we have and weighing the relative importance of how much should properly apply to each, we thought this was all we could ask for.

Mr. RABAUT. You are asking for $1 million within ceiling, and yet you have an annual expense of $600,000 until the Government can turn this project over to local interests.

Mr. BRENNAN. That is correct, sir.

Mr. RABAUT. I do not see any reason why you did not ask for more money if you have the interests of the Federal Government at heart. Did the Bureau of the Budget not know that the maintenance would cost $600,000 a year.

Mr. BRENNAN. Yes, sir.

Mr. RABAUT. I do not think this is proper.

Mr. FORD. From an engineering standpoint, is $1 million all you could spend?

Mr. BRENNAN. No, sir.

Mr. RABAUT. What is the present schedule set up to complete this project?

Mr. BRENNAN. The schedule is based upon completion of the project in 1956, which would require getting an appropriation in the order of $5 million or $6 million per year after 1953.

Mr. RABAUT. How much could you reasonably use on this project?

Mr. BRENNAN. We could use as much as $5 million, or possibly $6 million per year on the project.

Mr. FORD. Mr. Brennan, in the schedule you just gave to Mr. Rabaut, do you consider that an efficient engineering schedule?

Mr. BRENNAN. Yes, sir.

Mr. FORD. It would also represent a distinct savings to the Federal Government in the amounts that were brought out last year in the hearings for maintenance and so forth?

Mr. BRENNAN. Yes, sir.

Mr. FORD. Is it the considered opinion of the Corps of Engineers that it is wiser to spend $1 million within ceiling on this project and $4 million over ceiling and at the same time include some other new starts within ceiling?

General CHORPENING. I will answer your question by saying this, that as we have stated, we can use $5 million within ceiling, or without ceiling, and we believe that is the amount that could and should be economically applied to this project.

Mr. FORD. Are some of the projects that you have included within ceiling as new starts more desirable from an economic standpoint, or an engineering point of view than the $4 million you request for this project over ceiling?

General CHORPENING. All of the new starts included in this budget, in flood control, are considered to be vital to the Nation. I could not state that it is more vital to prosecute this project than to initiate these new starts.

Mr. FORD. The record shows, from the testimony last year and from some of the testimony this morning, that from a purely economic point of view, certainly the more rapidly you prosecute this work the more economic it is.

General CHORPENING. I certainly agree with you, yes.

Mr. FORD. The other possible damages that might result in other geographic areas by not starting new projects are speculative.

General CHORPENING. To some degree.

Mr. FORD. Depending upon the elements, and so forth. However, here is a concrete example of where the Federal Government by a more rapid prosecution of work could actually save money.

General CHORPENING. That is correct.

LEGISLATIVE TIE-IN WITH CALIFORNIA

Mr. FORD. Do you have any legislative tie-up with the State of California on this project?

Mr. BRENNAN. Yes; there is a very definite and rather complex tie-up on it. This so-called old project was undertaken in cooperation with the State of California through the State engineer and the State reclamation board, and their responsibility stems from State legislation which was passed subsequent to the act of March 1917, which established the old Scramento River project. Under that act they are committed to make appropriations under their own legislation which can be directly used for the old Sacremento River project.

Their cooperation with us under the so-called new project comes under "Flood control, general," and the State and the legislature is now prepared, and willing and anxious for that matter, to have the project completed.so they in turn can turn it over to the local district.

Mr. FORD. But there is nothing in the legislation or arrangement which the Federal Government has with the State of California that would be upset by a more rapid prosecution of this work by the Federal Government?

Mr. BRENNAN. No, there is not; there is nothing that would be upset by more rapid prosecution. On the contrary, the State would be aided by a more rapid prosecution.

Mr. FORD. Just one or two more questions: Is it essential that you build the patrol roads on existing levees, calling for $423,000 in this year?

Mr. BRENNAN. Yes, sir; that is one of the most important parts of the remaining work to be done on the project. In places where there are no access roads, no roads paralleling the levee—there has to be

some means of access along the levee. The corps and the State feels those roads are necessarily a part of the work required before these particular sections of the levee can be turned over to the State.

The completion of the roads, the completion of the sections with the roads, permits us to turn over that part to the State, and we can wash them off our books as fast as they are completed, as far as we are concerned.

Emergency Bank Protection

Mr. Ford. Why is there an increase of $198,000 in the funds requested for fiscal year 1953 over the same funds for 1952 for emergency bank protection?

Mr. Brennan. The amount requested for 1952 is relatively small. The emergency bank protection is a large part of the amount that goes into the $600,000 for maintenance to protect the project. In 1952 there was not enough money to go around and the amount of bank protection was cut down rather close.

Mr. Ford. Can you itemize for the record—you do not have to do it now—the items that make up the amount of money included in the $1 million in this year's request?

Mr. Brennan. I can do that right now, sir: $372,000 for emergency bank protection; $423,000 for patrol roads; $5,000 for stream gage maintenance; and $200,000 for engineering and design.

There was another question about the increase in cost which I should like to have an opportunity to explain.

Mr. Rabaut. You may put the explanation in the record.

Mr. Brennan. Yes, sir.

(The statement referred to follows:)

Cost to June 30, 1950	$38,382,000
Estimated cost to complete	17,253,000
Total cost as of June 30, 1950	55,635,000
Price increase June 30, 1950, to June 30, 1951 (6 percent of $17,253,000	1,035,000
	56,670,000
Increase due to extension of project-completion time by 2 years, at $600,000 a year [1]	1,200,000
	57,870,000
Increase from revised estimates resulting from detailed surveys during fiscal year 1951	3,190,000
Estimate of total cost as of June 30, 1951, subject to revision after completion of detailed surveys and dependent upon completion of project in fiscal year 1956	61,060,000

[1] Maintenance dredging below Cache Slough (annual cost $100,000) and bank protection and levee set-backs for uncompleted portions of work and miscellaneous operation and maintenance (annual cost $500,000) would increase cost estimate by $600,000 a year. The 1950 estimate was based on completion in fiscal year 1954; the present estimate is based on completion in fiscal year 1956.

NIAGARA REDEVELOPMENT AND REMEDIAL WORKS INVESTIGATION

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate			$1,000,000
Transferred from "Flood control, general," pursuant to Public Law 45	$450,000		
Adjusted appropriation or estimate	450,000		1,000,000
Prior year balance available		$172,553	
Balance available in subsequent year	−172,553		
Obligations incurred	277,447	172,553	1,000,000

Obligations by activities

Surveys and investigations, Niagara redevelopment and remedial works investigation:

1951	$277,447
1952	172,533
1953	1,000,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Total number of permanent positions	50	33	58
Average number of all employees	48	30	56
Average salaries and grades:			
General schedule grades:			
Average salary	$4,284	$4,701	$4,710
Average grade	GS-6.8	GS-6.8	GS-6.8
01 Personal services:			
Permanent positions	$205,960	$138,867	$270,959
Regular pay in excess of 52-week base		533	1,041
Payment above basic rates	486	300	1,000
Total personal services	206,446	139,700	273,000
02 Travel	15,465	10,000	19,000
03 Transportation of things		300	300
04 Communication services		300	300
05 Rents and utility services		500	500
06 Printing and reproduction		100	100
07 Other contractual services	30,449	10,653	649,260
08 Supplies and materials	25,087	11,000	25,000
09 Equipment			7,000
10 Lands and structures			25,000
15 Taxes and assessments			540
Obligations incurred	277,447	172,553	1,000,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year		$277,447	
Obligations incurred during the year	$277,447	172,553	$1,000,000
	277,447	450,000	1,000,000
Deduct unliquidated obligations, end of year	277,447		250,000
Total expenditures		450,000	750,000
Expenditures are distributed as follows:			
Out of current authorizations			750,000
Out of prior authorizations		450,000	

Mr. RABAUT. We will take up next the Niagara Redevelopment and Remedial Works Investigations.

This is a project with a total estimated Federal cost of $6 million. The allotments to date have been $450,000, which was the first money appropriated, and the tentative allocation for fiscal year 1953 is $1 million.

This money is all for planning.

General CHORPENING. Yes.

Mr. RABAUT. We will be glad to have a statement from you, General, because this is a much-discussed project.

GENERAL STATEMENT

General CHORPENING. Mr. Chairman, Mr. Beard, who is chief of the Planning and Development Division in my office, is very thoroughly familiar with this project, and I am going to ask him to testify on it.

DESCRIPTION OF RECENT TREATY

Mr. BEARD. Mr. Chairman, this item stemmed originally from the treaty of October 10, 1950, between the United States and Canada, whereby there was a provision for setting up a further division of water in the Niagara River between the two countries.

Mr. KERR. Has any of the $6 million been spent on this project?

Mr. BEARD. There was $450,000 appropriated; most of that has been spent.

PROGRESS OF WORK

The new treaty, very briefly, provides that certain minimum amounts of water must be reserved to go over the falls to maintain their beauty, and water in excess of that can be diverted by the two countries for power development—half by each country. The Canadians immediately started development of their part of the water. They are right now busy with new tunnels and canals, starting just above the Falls and leading all the way down to the new power plant at Queenstown.

Mr. RABAUT. The work they are doing will not interfere with the beauty of the Falls whatsoever?

Mr. BEARD. No. I might mention also in connection with the treaty that if one country does not use its share of the water, the other country may use it. So it is conceivable that just so long as the United States does not use its share of the water, Canada will divert it into new or existing plants.

RECOMMENDATIONS OF INTERNATIONAL JOINT COMMISSION

Another feature of the treaty was that the International Joint Commission, which was set up under the 1909 treaty, is to recommend to the Governments what remedial works will be needed to spread the water over the crest of the Falls to make sure there is no detriment to the Falls. That work is also in progress at the present time, and our department, the Corps of Engineers, on the United States side is doing the work for the International Joint Commission.

TRANSFER OF FUNDS FROM STATE DEPARTMENT

So in talking about this it is impossible to separate the two pieces of work completely. We have had a transfer of money amounting to about $150,000 from the State Department for work in connection with the remedial works.

The map shows a pretty good lay-out of what is proposed, and I will be glad to describe that to you, if you wish, Mr. Chairman.

Mr. RABAUT. Very well.

EXISTING POWER FACILITIES

Mr. BEARD. At the present time there are two existing power plants on the United States side, a very old one, called the Adams plant, taking a small amount of water out of the Niagara River above the Falls and passing it through the power plant and discharging it into the gorge just about the International Bridge across the river [indicating].

The other is the Schoellkopf plant, the intake for which is in about the same vicinity, above the Falls, at this location [indicating].

PLAN OF NEW DEVELOPMENT

Now, the new development that is planned, would divert water from the river a considerable distance further up here [indicating], take it through a canal all the way down to the vicinity of Lewiston, where there would be a new power plant that would develop power from the entire head between the pool above the Falls and the gorge below the lower rapids [indicating]. As you may remember, the Niagara River drops about 210 feet from the Grass Island pool above the Cascades to Maid of the Mist pool below the Falls. Then there is another 100 foot drop, approximately, in the gorge between the Falls and Lake Ontario.

Mr. RABAUT. How much is the drop where the proposed site would be?

Mr. BEARD. About 300 feet.

Mr. RABAUT. The full drop?

Mr. BEARD. The full drop.

Mr. RABAUT. 300 feet?

Mr. BEARD. Yes; it is about that. So you can see with this new diversion we can achieve the benefits of the entire drop from the river above the Falls essentially to the Lake Ontario level.

Mr. RABAUT. Yes.

Mr. BEARD. Now, as to the Canadian development, they will take their water out about this location [indicating] all the way around the power plant at Queenstown opposite Lewiston [indicating].

Mr. RABAUT. Is it the plan to do that with open cuts, or are you planning to do it with tunnels?

Mr. BEARD. We have made a study of the open cut, which is a great deal cheaper. It is estimated to be several million dollars cheaper if we can do it by open cut, and that is what we would expect to do.

GEOLOGIC FORMATION

Mr. RABAUT. What is the geologic formation?

Mr. BEARD. A large part of this region is limestone underneath, with strata dipping in this direction toward Lake Ontario. It would be possible to tunnel, but the rock is none too good, possibly requiring that the tunnel be lined with concrete, which would make it a very expensive proposition.

Mr. RABAUT. Where is the biggest drop?

Mr. BEARD. The big drop is right here, through the Lewistone powerhouse.

The treaty requires that during the summer daytime period the flow be not less than 100,000 second-feet over the Falls, and during the nighttime, and in the winter season the Falls require not less than 50,000 second-feet. That results in quite a fluctuation in the flow. In order to meet the power demands, it is proposed to have a storage reservoir put right back up here [indicating] and the water will be pumped into the reservoir during the nighttime.

Mr. RABAUT. By the power from the plants?

Mr. BEARD. Yes, sir; by the power from the plants, to be released during the daytime when the demand on the power plant is heavy and the water diversion is reduced.

KILOWATT CAPACITY

The total installation on these two features would be 1,570,000 kilowatts, as compared to about 450,000 kilowatts at the present time in these two existing plants.

Mr. RABAUT. Are they antiquated?

Mr. BEARD. This Adams plant is definitely antiquated. The Schoellkopf is in good operating condition.

Now, what I have described is the initial development—there are two additional stages of development which have been given some study.

The water that is discharged from the Schoellkopf plant could be picked up in another canal or tunnel and carried on down here to develop power, using the drop of the river from Maid of the Mist pool to Lewiston.

Mr. RABAUT. There is not going to be much fall there, is there?

Mr. BEARD. Yes; there is around 90 feet fall.

Mr. RABAUT. Would it have to be lifted?

Mr. BEARD. No. They think they could either pick up the discharge from the Schoellkopf plant out of the river with a diversion dike, or even put a dike in here and turn it right down through the tunnel to the lower end of the gorge where it would be put through a power plant and then discharged into the river.

That has not been thoroughly worked out as yet.

COMPARISON OF POWER DEVELOPMENT WITH OTHER PROJECTS

Mr. RABAUT. How does the development of power here compare in volume to power developed on projects in other parts of the country?

Mr. BEARD. In the initial stage here it is 1.5 million kilowatts, compared to McNary at about 1 million—about a third more than

at McNary Dam; the Grand Coulee installation is about 2 million kilowatts, so this would be a little less than that, but it is really one of the big developments in the United States. Of course, I am referring only to the United States side.

USES OF POWER

Mr. RABAUT. Where is the Canadian power that is being developed at the present time being used?

Mr. BEARD. It goes into the system of the Ontario Hydroelectric Power Commission, which is the agency that supplies power to all of Ontario.

This power in here is used in Niagara area, and the metallurgical industry, and supplies South Ontario, and Windsor. Some of this power has been coming back into the United States.

Mr. RABAUT. What about the remedial works?

Mr. BEARD. Before taking up the remedial works there is one more item to speak of concerning the power development.

MODEL FOR EXPERIMENTAL PURPOSES

In the work we have done with the money that was appropriated last year, we have set up a model for experimental purposes, at our experiment station at Vicksburg, and have made studies and have actually found out something that had not been anticipated at all. That is, in changing from the nighttime flow over Falls to the greater daytime flow and vice versa at the end of the day, the change-over takes about 9 or 10 hours, so that actually you will not have nearly as much water going through the power plant as was previously anticipated.

In other words, the changing flow in the channels around Grand Island takes so much time to equalize; and as a result of the study of this model, it was determined it would be necessary to have compensating or control works. With the use of control works we can get a much better spread of water over the Falls, and at the same time avoid the long time lag in the change-over, and thereby increase the power potential tremendously.

COMPENSATING STRUCTURE

Mr. RABAUT. Is there not some sort of a retarding wall across there now?

Mr. BEARD. There is a short weir across here that was built during the war, and which extended about half way across from the Canadian side. It was put in there to raise the pool level here about 1 foot to get that much more head at the power plant. Also is pushes more water over to the American Falls. It was very effective for that purpose. The new compensating work which I speak of will be at approximately the same location—a half mile or a mile above Goat Island—this little white spot on the map indicates where Goat Island is.

So we have put this compensating structure in as a part of the initial development and have included it in the cost estimate.

Mr. RABAUT. What is the relationship between this project and the St. Lawrence waterway project?

Mr. BEARD. There is no relationship at all between the two. The power from the two projects would, of course, serve in general the same market areas, but as far as the hydraulic considerations are concerned, there is no connection in any way.

NAVIGATION CHANNEL

Another thing I should have mentioned in connection with the development is the navigation channel that comes around Grand Island to the city of Niagara Falls. The stream levels would fluctuate in this pool [indicating] as the water is drawn off for power and would interfere badly with this navigation channel. The construction of this compensating work will completely offset that trouble.

Mr. RABAUT. How far down does that permit navigation?

Mr. BEARD. It comes right down to the city of Niagara Falls, just about where this new intake will be located.

Mr. FORD. How deep a draft is provided?

Mr. BEARD. It is a 21-foot channel to Tonawanda and then 12 feet to Niagara Falls.

(Discussion off the record.)

WORK DONE BY DISTRICT ENGINEER, BUFFALO, N. Y.

Mr. BEARD. With the money that was appropriated last year, the district engineer at Buffalo, N. Y., has done a considerable amount of the engineering work and has come up with a general report on this stage of the development. There is need for more money as included in the budget to carry these studies along more nearly toward completion.

RELATIONSHIP OF VARIOUS BILLS

Mr. RABAUT. What is the relationship between the work contemplated here and several bills on the subject of Niagara power now pending before the Congress?

Mr. BEARD. There have been bills for three different types of authorizations for this project introduced in both Houses of Congress, and both the Public Works Committees of the House and the Senate held hearings last year. One pair of the bills were introduced by Congressman Roosevelt and Senator Lehman, providing for the construction of the project by the Corps of Engineers.

Mr. RABAUT. For what?

Mr. BEARD. For power, the power development. The remedial works which come in all of these proposals are covered by the treaty and are under the jurisdiction of the International Joint Commission. The power development in that bill of Senator Lehman and Mr. Roosevelt would be done as a Federal project by the Corps of Engineers.

The next scheme was bills introduced by Senator Ives, and I think Congressman Cole, and proposed that the Government authorize the Federal Power Commission license the New York State Power Authority to build the power plant.

The third type of bill, introduced by Senator Capehart and Congressman Miller, would authorize or direct the Federal Power Commission to license the development to a private power company—probably the Niagara-Mohawk company, although they testified it would

be a combination of several companies that would own and operate the project and develop the power.

The actual development as I have described it must be the same under any one of those three legislative proposals.

(Discussion off the record.)

Mr. KERR. The development on the American side would be done by American interests.

Mr. BEARD. Yes. The Canadian side is being developed by their own power commission.

Mr. FORD. Is the plan of remedial work included in this $1 million?

Mr. BEARD. No; the remedial work money has been appropriated to the State Department and transferred to us. It should be mentioned, however, that the information that we have gained from the model down at Vicksburg in connection with the power installation is also usable by us in working on the remedial studies by the International Joint Commission. And the work that we do for the Commission can also be used by us in studies of power developments.

BREAKDOWN OF COSTS

Mr. RABAUT. Will you file for the record, for the 1953 estimates, a table similar to that shown on page 632 of the hearings of last year?

Mr. BEARD. Yes, sir.

(The table requested follows:)

Remedial measures only	
Joint facilities:	
Design of structures and power facilities (definite project report only)	$600,000
Surveys	150,000
Subsurface investigations	150,000
Model studies	100,000
	1,000,000
Power only	

Mr. RABAUT. Also file for the record a copy of the Senate Public Works Committee resolution authorizing the power study.

Mr. BEARD. Yes.

(The information requested follows:)

COMMITTEE RESOLUTION

Resolved by the Committee on Public Works of the United States Senate, That the Board of Engineers for Rivers and Harbors, created under section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby, requested to review the reports on Niagara River, N. Y.; Black Rock Channel and Tonawanda Harbor, N. Y.; and Buffalo Harbor, N. Y.; published respectively as House Document No. 253, Seventieth Congress, first session, House Document No. 92, Seventy-ninth Congress, first session, and House Document No. 352, Seventy-eighth Congress, first session, and other reports, with a view to determining the most feasible general plans for utilization of the waters apportioned to the United States for power development at this locality consistent with the provisions of the treaty between the United States and Canada, effective October 10, 1950, and the effect of such developments upon the Federal navigation projects at this locality.

Adopted June 5, 1951.

DENNIS CHAVEZ, *Chairman.*

Mr. DAVIS. Mr. Beard, as I understand your previous statement, there is no commitment of any kind with respect to the method of developing the power made by the completion of this work for which you are asking funds.

Mr. BEARD. That is right; this work itself has nothing to do with the commitment.

DESIGN OF STRUCTURES AND POWER FACILITIES

Mr. DAVIS. Let me explore that a little. For instance, on page 445 of the justifications you have set out a request of $600,000 for design of structures and power facilities. If the Federal Government develops the facts that are used by the State or some other agency, would the Federal Government be reimbursed for the money that had been expended for the design of structures and power facilities?

Mr. BEARD. If that were made a condition of the license, yes. Whether that would be a condition of the license, I do not know. I would say that the Niagara-Mohawk people—that is not the State—testified that if they developed it, they would bear the cost of remedial works to preserve the beauty of the falls.

Mr. DAVIS. You have anticipated my next question.

Mr. BEARD. As to whether or not the State or power company would be willing to reimburse the Government for engineering and design costs, I do not think that question was asked nor answered.

Mr. DAVIS. Do you know of any other case in which the Federal Government proceeded to make investigations amounting to several million dollars where the project was subsequently completed by a private enterprise and the Federal Government was reimbursed for investigations of this nature?

Mr. BEARD. I do not think of any parallel situation, no.

Mr. DAVIS. Perhaps it would be worth while to ask you to subsequently insert a statement in the record at this point, if you find it can be done without an unreasonable search of your records.

Mr. BEARD. Yes; we will certainly do that. One comes to mind that has some similarity. A bill has been introduced in Congress to authorize the State of Oklahoma to build the Markham Ferry project, and that bill provides that the Government will receive credit for expenditures made by it in connection with the project.

(The information requested follows:)

Search of the records has disclosed no instance where a project was extensively engineered by the Corps of Engineers and later built by private enterprise with reimbursement to the Government for its expenditures.

REASON FOR PROJECT BEING ENGINEERED BY FEDERAL GOVERNMENT

Mr. DAVIS. If there is no prior parallel case, I wonder if we are safe in assuming that going this far does not constitute some kind of a commitment for the full construction and development of power by the Federal Government?

Mr. BEARD. Mr. Davis, there are a number of reasons why this project should be quite thoroughly engineered by the Federal Government, whether or not the project is built by the Government. Very briefly, touching upon one of them, this is a tremendously important project. I would say that the Government has a responsibility to see that it is developed to its best advantage.

Furthermore, there are possibilities for additions in the future, and the initial work on this canal and power plant should be designed and built with the future possibilities in mind.

In other words the initial development must provide for possible enlargements later on.

Another thing is this compensating structure that is so vital to the whole plan. It has to be an international structure. It has to be so fitted in the construction and in the continuous operation that very close working arrangements with Canada have to be made; it has a very vital effect on the remedial work at the Falls.

So I would say that the Government has a definite responsibility to see that this is handled exactly right, for two reasons: one, for the benefit of the Falls; and the other for the benefit of the power resources.

Aside from the question of who is going to build it, we feel very strongly that a great deal of the engineering should be done by the Federal Government and then if it is licensed to someone else, they should be required to construct and operate it in accordance with Government plans.

Again, navigation comes into it in the same way. The project, the power plant, must be built and operated in such a way that it does not ruin the navigation project.

For all of those reasons we feel it is very important to do the engineering, at least a lot of it, and then that there be certain requirements in any operating scheme that might be licensed if it were authorized.

CONSULTATION WITH OUTSIDE INTERESTS

Mr. DAVIS. In view of the fact that Congress is in the midst of a controversy on this matter, have the engineers consulted with representatives of the State of New York, or with the power interests, who are in position to handle this particular project to satisfy them that what you plan to do involves a reasonable expenditure for the job that is going to be done by somebody?

Mr. BEARD. I think the answer is definitely "Yes." As an example, a large part of the drilling in the canal locations was done by the power companies and the information on the core boring results was made available to us. The whole thing was done with the State and the power people being apprised of the general nature and scope of the investigation, and considerable technical data were interchanged.

Mr. DAVIS. There cannot be any possibility then of some power company coming in later and saying, "Here, you have this amount of money invested in this project, and therefore you are going to try to keep us from doing this job?

Mr. BEARD. Well, they could say that, but I do not think it would be substantiated.

Mr. DAVIS. You think they are being well enough informed of what is going on, to the extent that that would demonstrate they were not in good faith if they were to make such a claim?

General CHORPENING. I think so. These studies have been carried on with everybody knowing generally what is going on. We are not proceeding in any way under any secrecy arrangement at all. There were hearings held last year by the Public Works Committees,

of the House and the Senate, where these same plans were all spread out and discussed.

Mr. BEARD. I know also that the district engineer has, within the last month, furnished to both the Niagara-Mohawk Power Co. and the State of New York his latest material, and he did that with the approval of the Chief of Engineers' office here.

Mr. DAVIS. I have not heard you mention anything about the expressed feeling of this committee at the time the $450,000 was appropriated, that we ought to be fully informed on what you had found out with the money appropriated before any further appropriations were made.

REVIEW REPORT FOR SENATE PUBLIC WORKS COMMITTEE

Mr. BEARD. On that point, Mr. Davis, in June, I believe it was, of last year, the Senate Public Works Committee passed a resolution calling for a review report—June 5. That is the usual type of authorization for a review survey study. The district engineer has done that work, and has submitted a report which came to our Washington office just a few days ago.

A part of that $450,000 was used to make the report. There is still a part of the $450,000 on hand, which is being used to carry these studies further along. This report has in it the basic engineering material which I indicated briefly when I was at the map.

Mr. DAVIS. Would you say the information obtained in that report is basic enough and favorable enough so that there is no question about the desirability of further proceeding?

Mr. BEARD. Yes, without any qualification I would say yes to that. Everybody, the State of New York, the power companies, and everyone who testified said without equivocation that this is a very fine project and should be built and built immediately by someone for the benefit of power users in the area.

This report has carried forward the older studies of the Federal Power Commission and the older studies of the power companies themselves. The district engineer has had the benefit of the findings resulting from the model at Vicksburg, which, as I said, has brought out the fact that there must be compensating work provided, which was more or less overlooked previously.

This report, furthermore, will be available to our engineers and will be of tremendous help to them later on in developing reliable information for any further reports.

Mr. DAVIS. Is there a precedent for economic and engineering investigations, approaching this magnitude, pending authorization for construction?

Mr. BEARD. Yes, sir; the one in connection with the St. Lawrence River, where a tremendous amount of engineering was done over a long period of years, and the project has not yet been authorized.

There are also the studies that we are making on the Arkansas-White-Red Rivers, and the New York-New England area. They differ somewhat, because this is a very large project. This is also similar to the general survey procedure that we go through with respect to any large development, as we did on the Columbia. Those projects on the Columbia have passed through this same stage, and we keep

the engineers working on them in order to keep everything up to date. Those projects have been authorized. On any project of this magnitude, the more that can be done in the early stages of the engineering, the more certain we are of our facts and figures in the estimates if they should come to construction.

Mr. DAVIS. If the report that you have shown us satisfies the resolution of the Senate committee, what authorization is there for further power studies on this project?

Mr. BEARD. This report is the district engineer's report. The resolution is not satisfied until both the Board of Engineers for Rivers and Harbors and the Chief of Engineers submit their reports to the Congress.

(Off-record discussion.)

Mr. KERR. General Chorpening, I wish to compliment you and your associates, on the comprehensive discussion of this Niagara development, and the remedial works project. It has been most informative, and I am very glad to have had the opportunity to hear it, as I am sure every member of the committee has.

General CHORPENING. Thank you, Mr. Chairman. I appreciate those words, and I am especially grateful to Mr. Beard, in my office, for the statements; he is fully informed in connection with this project.

MAINTENANCE AND OPERATION OF DAMS AND OTHER IMPROVEMENTS OF NAVIGABLE WATERS

Mr. RABAUT. The next item is, "Maintenance and operation of dams and other improvements of navigable waters"; the estimate for 1952 was $150,000, and the same amount is requested for 1953.

Will you give us a general statement on this item and supply for the record the information similar to that furnished the committee last year?

General CHORPENING. Yes.

(The statement and data requested follow:)

The Federal Power Commission each year deposits in the Treasury the proceeds received from certain licenses issued by the Commission for constructing, operating, and maintaining dams, conduits, or reservoirs at Federal projects. Under the provisions of the Federal Water Power Act of August 26, 1935 (16 U. S. C. 810), 50 percent of the proceeds is reappropriated to the Corps of Engineers each year for application to work on any authorized river and harbor project.

Funds made available under the above authority have been allotted during the past three fiscal years to the following projects:

Fiscal year	Project	Amount
1950	Ohio River locks and dams	$15,000.00
	Monongahela River locks and dam, Pennsylvania and West Virginia	40,000.00
	Allegheny River locks and dams, Pennsylvania	16,000.00
	Kentucky River, Ky., locks and dams	51,000.00
	Green Barren and Nolin Rivers locks and dams, Kentucky	19,000.00
	Tennessee River locks and dams	11,665.25
	Total for 1950	152,665.25
1951	Ohio River locks and dams	152,661.50
1952	do	152,664.05

PAYMENTS TO STATES, FLOOD CONTROL ACT OF 1938

Mr. RABAUT. Under the item, "Payments to States, Flood Control Act, June 28, 1938, as amended"; the estimated obligation for 1952 was $950,000 and the estimates for 1953 are $1,360,000 or an increase of $410,000.

Will you give us a general statement for the record on this item and supply information similar to that furnished the committee last year?

General CHORPENING. Yes.

(The statement and data requested follow:)

Three-fourths of the moneys received from lease of Federal lands acquired in connection with flood control reservoirs is available for the benefit of the public schools and roads of the counties in which such property is located (33 USC 701c–3). This money is reappropriated for return to the various States in which flood control land is situated.

FUNDS CONTRIBUTED FOR FLOOD CONTROL—RIVERS AND HARBORS

Mr. RABAUT. On page 450, under funds contributed for flood control, rivers and harbors; the total estimated obligation for fiscal year 1952 was $1,807,493; the estimate for 1953 is $7,835,200. Will you give us a general statement on this item and supply for the record information similar to that furnished the committee last year?

General CHORPENING. Yes.

(The statement and data requested follows:)

Funds are received from local interests under one of two conditions as follows:

1. Cases where the law authorizing the construction of Federal projects requires local interests to contribute a certain portion of the over-all Federal cost prior to the initiation of the project.

2. Cases where certain construction required by States or municipalities are not a part of a Federal project but are required to be performed at the same locality in connection with an authorized Federal project.

In these cases the local interests contribute to the Federal Government the estimated cost of their own work since the local interests construction goes along at the same time as the construction being performed on the Federal project.

Funds expected to be contributed for flood control, rivers, and harbors, during the fiscal year 1953 are as follows:

Funds contributed for flood control, rivers and harbors, new contributions, 1953

Project	Construction		Maintenance
	Required for authorized project	Not required for authorized project	
Salmon River, Alaska			−$200
Central and southern Florida	$2,485,000		
New Albany, O. R. B., Indiana		$78,000	
Cumberland, Md., and Ridgeley, W. Va		1,970,000	
Grapevine Reservoir, Trinity River, Tex	567,000		
Garza-Little Elm Reservoir, Trinity River, Tex	1,000,000		
Los Angeles River channel, Van Nuys Blvd. to Sepulveda Blvd		25,000	
Los Angeles River channel, Stewart and Gray Rd. to Santa Ana Branch, Pacific Electric Ry. bridge		50,000	
Pocoima Wash., Tujunga Wash-Lopez Dam		590,000	
Los Angeles River channel, Pacific Electric Ry. bridge to Atlantic Ave		570,000	
Rio Hondo channel, Southern Pacific Ry. to Washington Blvd		500,000	
Total	4,052,000	3,783,000	200

FUNDS CONTRIBUTED FOR IMPROVEMENT OF RIVERS AND HARBORS

Mr. RABAUT. The last item, "Funds contributed for improvement of rivers and harbors" shows the estimate for 1952 at $31,400 after adjustments, and the estimate for 1953 is $40,000.

General, will you give us a statement on this item and supply similar information that was furnished to the committee last year for the record?

General CHORPENING. Yes.

(The information requested follows:)

The authority for receiving contributions of funds for improvement of rivers and harbors is the same as that for flood control projects. Funds expected to be contributed for improvement of rivers and harbors, in 1953 are as follows:

Funds contributed for improvement of rivers and harbors—net contributions, 1953

Nome Harbor, Alaska	$2,500
Monroe Harbor, Mich	7,500
Yuba River, Calif	30,000
Total	40,000

FISH AND WILDLIFE SERVICE

LOWER COLUMBIA RIVER FISHERIES DEVELOPMENT PROGRAM

TUESDAY, FEBRUARY 5, 1952.

WITNESSES

DR. O. LLOYD MEEHEAN, CHIEF, BRANCH OF GAME FISH AND HATCHERIES

WILLIAM HAGEN, IN CHARGE OF SALMON PROPAGATION

RUDOLPH DIEFFENBACH, CHIEF, OFFICE OF RIVER BASIN STUDIES

Mr. RABAUT. We will now take up the matter of the Fish and Wildlife Department of the Department of the Interior.

GENERAL STATEMENT

Have you a general statement that you wish to make?

Dr. MEEHEAN. Yes, sir; I have.

(The statement is as follows:)

The lower Columbia River fisheries-development program is the plan by which it is expected that a substantial proportion of the Salmon fishery may be preserved despite the elimination of major spawning areas by the construction of large dams by the Federal Government in the Columbia River and its tributaries. The States of Washington and Oregon, the Department of the Interior, the Department of the Army, and all other interested agencies and groups are agreed that the fisheries-development program in the lower river area must be completed and activated as soon as possible to mitigate, in part, the losses of salmon expected by the construction of water-use projects.

All Pacific salmon perish after completion of spawning. The eggs remain in the gravel through the winter and the resulting young fish start their migration to the ocean during the spring and summer months. These same fish, as adults, return from the ocean 4 years after their parents deposited the eggs in the gravel. Upon entering fresh water the salmon cease feeding but have stored energy in the form of fat in sufficient quantity only to permit them to reach the spawning

gravel of their birth and there deposit and fertilize their eggs, and the cycle begins all over again.

All dams are barriers to migratory fishes. Even those dams with fishways can contribute to the destruction of fishes since the water issuing from the down stream openings of the fishways is but a fraction of the total stream flow and the salmon, being attracted to the greater flow, are delayed in finding the fishway. Such delay at one dam, or a series of dams, may cause the expenditure of the fish energy required to reach the spawning areas, and result in the death of the salmon prior to spawning. This is due to the fact that they only store sufficient energy presumably to approximately reach those spawning grounds.

Thus it can be seen that the erection of obstructions to the upstream passage of adult salmon, even though fishways are provided, will delay and can be expected to destroy portions of the runs by denying access to the spawning areas Furthermore, the young fish during their passage to the ocean must pass these barriers and, in doing so, a substantial percentage will be destroyed in the turbines and in passage over the structures. Sufficient information is not available to accurately predict these losses.

That is in the present state of our knowledge.

However, the upstream and downstream mortalities among these fish, combined with the inundation or flooding of spawning areas above dams, could result in the loss of a major portion of the fishery.

The salmon fishery of the Columbia River, including the commercial, Indian, and sport fisheries, is currently valued at more than $18,000,000. Approximately two-thirds of this value is derived from salmon originating in the spawning areas that now remain above McNary Dam. As partial mitigation for the loss of a major portion of the up-river production, the lower-river-fisheries program is expected to develop all of the lower Columbia River tributaries in order that these streams may produce their maximum of salmon. Instead of the current contribution to the fishery, these lower river tributaries will be expected to produce about double the present poundage after completion of all facilities required for the program. Upon completion of the facilities or any one of the facilities, at least 4 years, or a life cycle of salmon, will be required for the first results in the lower river tributaries to become apparent. If these facilities are provided at the earliest possible date, the development of the lower-river-salmon populations may be well under way prior to the construction of additional dams in the Columbia River and in the Snake River.

Budget requests by the Corps of Engineers contain an item for the start of construction on Ice Harbor Dam, and other dams are planned for the Snake River. It is anticipated that these structures when completed will destroy some segments of the population of salmon spawning in the Snake River and its tributaries with the result that a portion of the 15 million pounds of salmon taken by the fishery and attributable to the Snake River will be lost.

The sums requested for the lower Columbia River fisheries program and for examinations of the effects of rivers and harbors projects on fish and wildlife are as follows:

Lower Columbia River fisheries development program	$4,926,000
Examinations and surveys	15,000
Total	4,941,000

Lower Columbia River fisheries development program: Over-all estimate 4,926,000

Breakdown	Construction	Operation and maintenance	Total
Oregon	$1,382,244	$183,880	$1,566,124
Washington	2,250,935	188,000	2,438,935
Fish and Wildlife Service	623,686	297,255	920,941
Total	4,256,865	669,135	4,926,000

The original lower Columbia River fisheries program was proposed to start in fiscal year 1948 and continue for 10 years in order to be well ahead of the construction of dams so that salmon populations in the lower river would have been developed before additional major dam construction. However, no funds were received in 1948 and the funds received in the succeeding three fiscal years were not adequate to maintain pace with the construction of dams. If substantial segments of the salmon populations and the industry are to be preserved, larger sums must be made available during the next few years for completion of necessary facilities, which include: Construction of new and expansion of existing salmon hatcheries; stream clearance and fishway construction to provide salmon with additional and readily accessible spawning areas; operation and maintenance of facilities that have been constructed and which are currently under construction; and the engineering and administrative cost that will be involved in effectuating the program.

The lower Columbia River fisheries program is far behind schedule. The sum of $4,926,000 requested for fiscal year 1953 will bring the program closer to the original schedule. It is vitally important that this development and rehabilitation program be accelerated to endeavor to keep pace with the construction of dams, particularly if additional dams are to be started in the near future. The Federal Power Commission has issued permits for the construction of dams on the Cowlitz and Deschutes Rivers. In these two streams it was planned to develop fish runs representing a substantial portion of the lower Columbia River production. The loss of the spawning areas in these two important lower Columbia River tributaries will greatly hamper efforts to preserve and develop the lower river salmon populations.

There is attached for the record a tabulation of the total fisheries program as presently proposed, including details of the 1953 budget.

Fish and Wildlife Service

Lower Columbia River fisheries development program

Project and location	Scheduled completion date	Total estimated cost	Funds available and required				Expenditures to June 30, 1951	Funds required to complete				
			Available to June 30, 1951	Estimated additional, fiscal year 1952	Estimated additional, fiscal year 1953	Additional to complete		Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957
Hatcheries:												
Spring Creek (enlarged), Underwood, Wash.	March 1953	$366,050	$205,100	$160,950			$204,100					
Little White Salmon (enlarged), Cook, Wash.	November 1953	453,000	319,500	69,300	$64,200		249,500	$64,200				
Carson (enlarged), Carson, Wash	do	403,100	40,625	103,100	259,375		3,800	259,375				
Willard (new), Willard, Wash	September 1953	519,315	362,000	124,315	33,000		339,031	33,000				
Willard Laboratory (new), Willard, Wash.	February 1954	396,000	225,000	75,000	96,000		165,449	96,000				
Husum Springs (new), Husum, Wash	July 1955	571,000			71,000	$500,000		71,000	$500,000			
Eagle Creek (new), Eagle Creek, Oreg	August 1955	291,500				291,500			291,500			
Clackamas (new), Clackamas River, Oreg.	July 1958	415,000				415,000						$415,000
Spirit Lake (new), Washington	June 1956	380,000				380,000				$380,000		
German (new), Washington	June 1957	150,000				150,000					$150,000	
Facilities for appraisal of project results, etc.; hydrologic and topographic investigations, racks, traps, etc., Oregon, Washington.	do	287,931	186,920	15,000	23,511	62,500	176,920	23,511	20,000	17,500	15,000	10,000
Subtotal, hatcheries		4,232,896	1,339,145	547,665	547,086	1,799,000	1,137,800	547,086	811,500	397,500	165,000	425,000
Stream improvement:												
Fishways:												
River Mill Dam, Clackamas River, Oreg.	October 1954	383,000				383,000			383,000			
Cazadero Dam, Clackamas River, Oreg.	October 1955	157,500				157,500				157,500		
Subtotal, stream improvement		540,500				540,500			383,000	157,500		
Propagation: Feeds development, Washington and Oregon	June 1951	38,450	38,450				38,450					

Administration and inspection: Oregon, Washington, and Idaho		443,428	169,828	80,000	76,600	117,000	169,648	76,600	48,000	30,000	22,000	17,000
Total construction, Fish and Wildlife Service		5,255,274	1,547,423	627,665	623,686	2,456,500	1,345,898	623,686	1,242,500	585,000	187,000	442,000
STATE OF OREGON												
Hatcheries:												
Cedar Creek (Sandy) (new), Sandy, Oreg.	June 1953	$264,500	$240,000		$24,500		$229,500	$24,500				
Big Creek (enlarged), Astoria, Oreg	do	292,600	125,000	$93,600	74,000		69,420	74,000				
Metolius (enlarged), Sisters, Oreg	do	246,300	220,000	6,500	19,800			19,800				
Ox Bow (enlarged), Cascade Locks, Oreg.	do	274,500	212,500	22,000	40,000			40,000				
Klaskanine (enlarged), Astoria, Oreg	do	310,000	115,000	13,000	182,000			182,000				
Bonneville (enlarged), Bonneville, Oreg	June 1954	292,000			292,000			292,000				
John Day (new), Oregon	do	315,600				$315,000			$315,000			
Additional (new), Oregon	do	290,000				290,000			290,000			
Do	June 1955	517,000				517,000				$517,000		
Do	June 1956	320,000				320,000					$320,000	
Do	June 1957	310,000				310,000						$310,000
Facilities for appraisal of project results; hydrologic and topographic investigations, racks, traps, etc., Oregon.	do	89,138	56,328		14,810	18,000	33,952	14,810	9,000	6,000	3,000	
Subtotal, hatcheries		3,521,038	968,828	135,100	647,110	1,770,000	332,872	647,110	614,000	523,000	323,000	310,000
Stream improvement:												
Fishways:												
Punch Bowl, Dee, Oreg	November 1952	26,128	26,128				1,500					
Elkhorn, Mehama, Oreg	do	31,787	31,787				1,500					
Scappoose, Scappoose, Oreg	September 1951	22,808	22,808				4,050					
Clatskanie, Apiary, Oreg	July 1952	16,428	16,428				1,500					
Molalla, Molalla, Oreg	October 1954	10,000				10,000			10,000			
Eagle, Eagle Creek, Oreg	November 1953	42,878	23,428	19,450			1,500					
Goble, Goble, Oreg	do	43,679	23,129	20,550			1,500					
Willamette (east), Oregon City, Oreg.	November 1955	245,000				245,000			245,000			
Willamette (west), Oregon City, Oreg.	November 1954	257,100			257,100			257,100				
Willamette (center), Oregon City, Oreg.	November 1955	490,200				490,200			490,200			
Tualatin, Willamette, Oreg	October 1953	18,500			18,500			18,500				
Youngs River, Astoria, Oreg	do	94,000			94,000			94,000				
Tide Creek, Goble, Oreg	do	22,500			22,500			22,500				
Stream clearance, Oregon	October 1954	153,902	84,368		23,034	46,500	57,344	23,034	46,500			
Hydrologic and topographic investigation facilities for appraisal of project results, Oregon.	June 1957	53,784	43,784		10,000		23,300	10,000				

Lower Columbia River fisheries development program—Continued

STATE OF OREGON—Continued

Project and location	Scheduled completion date	Total estimated cost	Funds available and required				Expenditures to June 30, 1951	Funds required to complete				
			Available to June 30, 1951	Estimated additional, fiscal year 1952	Estimated additional, fiscal year 1953	Additional to complete		Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957
Stream improvement—Continued												
Screening:												
John Day, Oregon	November 1954	$310,000			$310,000			$310,000				
Wasco diversions, Oregon	November 1955	70,000				$70,000			$70,000			
Umatilla diversions, Oregon	do	25,000				25,000			25,000			
Hood River diversions, Oregon	do	50,000				50,000			50,000			
Upper Willamette diversions, Oregon.	November 1956	750,000				750,000				$750,000		
Willamette Falls diversions, Oregon	September 1958	1,000,000				1,000,000					$500,000	$500,000
Clackamas River diversions, Oregon	do	600,000				600,000					300,000	300,000
Subtotal, stream improvement		4,333,694	$271,860	$10,000	735,134	3,286,700	$92,194	735,134	936,700	750,000	800,000	800,000
Propagation:												
Feeds development		4,800	4,800				2,190					
Management		20,000		20,000								
Subtotal, propagation		24,800	4,800	20,000			2,190					
Total construction, Oregon		7,879,532	1,245,488	195,100	1,382,244	5,056,700	427,256	1,382,244	1,550,700	1,273,000	1,123,000	1,110,000

STATE OF WASHINGTON

Hatcheries:												
Klickitat (new), Glenwood, Wash	December 1953	$620,348	$366,348	$159,000	$95,000		$361,387	$95,000				
Toutle (new), Toutle, Wash	do	620,000	355,000	57,000	208,000		200,650	208,000				
Cowlitz (new), Packwood, Wash	July 1954	515,000	220,000	120,000	175,000		363	175,000				
Elokomin (new), Cathlamet, Wash	March 1954	440,000			440,000			440,000				
Abernethy (new), Longview, Wash	do	315,000			315,000			315,000				
Washougal (new), Washougal, Wash	July 1955	475,000			45,185	$429,815		45,185	$429,815			
Kalama Addition (enlarged), Woodland, Wash.	September 1954	75,000				75,000			75,000			
Grays (new), Long Beach, Wash	July 1955	475,000				475,000			475,000			
Rainy (new), Randle, Wash	March 1956	400,000				400,000				$400,000		

Mill (new), Longview, Wash	do	350,000				350,000				350,000		
New Kalama (new), Woodland, Wash	September 1956	430,000				430,000					$430,000	
Lewis River (new), Woodland, Wash	September 1957	400,000				400,000						$400,000
Facilities for appraisal of project results; hydrologic and topographic investigations, racks, traps, etc., State of Washington.	June 1954	122,750	82,750		32,500	7,500	28,055	32,500	7,500			
Subtotal (hatcheries)		5,238,098	1,024,098	336,000	1,310,685	2,567,315	590,456	1,310,685	987,315	750,000	430,000	400,000
Stream improvement:												
Fishways:												
Klickitat Falls, Lyle, Wash	October 1953	571,100	149,900	238,450	182,750		14,975	182,750				
Wind River Falls, Carson, Wash	October 1954	429,285	14,000	15,285	400,000		12,025	400,000				
Wind River Minor Falls, Carson, Wash	October 1953	80,000			80,000			80,000				
Kalama Falls, Wash	October 1954	69,000	9,000		60,000			60,000				
Kalama area minor falls, Washington	October 1953	22,000			22,000			22,000				
Coweman River minor falls, Washington	do	30,000			30,000			30,000				
Washougal River Falls, Wash	do	50,000			50,000			50,000				
Elokomin River area minor falls, Washington.	do	5,000			5,000			5,000				
Abernethy Creek area minor falls, Washington.	August 1953	8,000			8,000			8,000				
Cowlitz Falls, Wash	October 1953	10,000			10,000			10,000				
Scantigrease Creek Falls, Wash	October 1954	30,000			30,000			30,000				
Falls Creek Falls, Wash	do	20,000			20,000			20,000				
Grays River Falls, Wash	July 1954	44,000				44,000			44,000			
Lewis River area minor falls, Washington.	October 1955	179,000				179,000			179,000			
Washougal area minor falls, Washington.	October 1954	29,185				29,185			29,185			
Cowlitz area minor falls, Washington	October 1956	465,000	15,000			450,000	12,800		300,000	150,000		
Mill Creek, Wash	July 1952	12,350	12,350				11,695					
Abernethy Falls, Wash	do	21,150	21,150				10,971					
Hydrologic and topographic investigations.	June 1954	95,000	45,000		42,500	7,500	40,587	42,500	7,500			
Stream clearance	June 1957	156,654	146,654	10,000			115,291					
Subtotal, stream improvement		2,326,724	413,054	263,735	940,250	709,685	218,344	940,250	559,685	150,000		
Propagation:												
Management		10,000		10,000								
Feeds development		4,250	4,250				2,745					
Subtotal, propagation		14,250	4,250	10,000			2,745					
Total construction, State of Washington.		7,579,072	1,441,402	609,735	2,250,935	3,277,000	811,545	2,250,935	1,547,000	900,000	430,000	400,000

Lower Columbia River fisheries development program—Summary of construction program (recapitulation of all agencies)

	Total estimated cost	Funds available and required				Expenditures to June 30, 1951	Funds required to complete				
		Available to June 30, 1951	Estimated additional fiscal year 1952	Estimated additional fiscal year 1953	Additional to complete		Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957
Hatcheries:											
Fish and Wildlife Service	$4,232,896	$1,339,145	$547,665	$547,086	$1,799,000	$1,137,800	$547,086	$811,500	$397,500	$165,000	$425,000
State of Oregon	3,521,038	968,828	135,100	647,110	1,770,000	332,872	647,110	614,000	523,000	323,000	310,000
State of Washington	5,238,098	1,024,098	336,000	1,310,685	2,567,315	590,456	1,310,685	987,315	750,000	430,000	400,000
Subtotal (hatcheries)	12,992,032	3,332,071	1,018,765	2,504,881	6,136,315	2,031,128	2,504,881	2,412,815	1,670,500	918,000	1,135,000
Stream improvement:											
Fish and Wildlife Service	540,500				540,500			383,000	157,500		
State of Oregon	4,333,694	271,860	40,000	735,134	3,285,700	92,194	735,134	935,700	750,000	800,000	800,000
State of Washington	2,326,724	413,054	263,735	940,250	709,685	218,344	940,250	559,685	150,000		
Subtotal (stream improvement)	7,200,918	684,914	303,735	1,675,384	4,535,885	310,538	1,675,384	1,879,385	1,057,500	800,000	800,000
Propagation:											
Fish and Wildlife Service	38,450	38,450				38,450					
State of Oregon	24,800	4,800	20,000			2,190					
State of Washington	14,250	4,250	10,000			2,745					
Subtotal (propagation)	77,500	47,500	30,000			43,385					
Administration and inspection: Fish and Wildlife Service	443,428	169,828	80,000	76,600	117,000	169,648	76,600	48,000	30,000	22,000	17,000
Total (all agencies)	20,713,878	4,234,313	1,432,500	4,256,865	10,790,200	2,584,699	4,256,865	4,340,200	2,758,000	1,740,000	1,952,000

Lower Columbia River Fisheries Development Program, operation and maintenance, showing source of funds

Project and source of O. & M. funds	Scheduled full operation date	Fiscal year															
		1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
HATCHERIES																	
Spring Creek (enlarged), Underwood, Wash.	November 1952.																
Fish and Wildlife Service		$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$54,200	$54,200	$54,200	$54,200	$54,200	$54,200	$54,200	$54,200
Corps of Engineers		7,500	13,875	20,000	39,500	39,500	39,500	39,500	39,500								
Little White Salmon (enlarged), Cook, Wash.	September 1953.																
Fish and Wildlife Service		18,450	18,450	18,450	18,450	18,450	18,450	18,450	18,450	18,450	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Corps of Engineers			15,000	25,000	65,489	81,550	81,550	81,550	81,550	81,550							
Carson (enlarged), Carson, Wash	November 1953.																
Fish and Wildlife Service			15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	108,000	108,000	108,000	108,000	108,000	108,000	108,000
Corps of Engineers				10,000	56,965	92,400	92,400	92,400	92,400	92,400							
Willard (new), Willard, Wash	September 1953.																
Fish and Wildlife Service											120,000	120,000	120,000	120,000	120,000	120,000	120,000
Corps of Engineers					66,212	120,000	120,000	120,000	120,000	120,000							
Husum Springs (new), Husum, Wash	June 1955.																
Fish and Wildlife Service													120,000	120,000	120,000	120,000	120,000
Corps of Engineers							60,000	120,000	120,000	120,000	120,000	120,000					
Eagle Creek (new), Eagle Creek, Oreg	July 1955.																
Fish and Wildlife Service													90,000	90,000	90,000	90,000	90,000
Corps of Engineers							50,000	90,000	90,000	90,000	90,000	90,000					
Clackamas (new), Clackamas, Oreg	July 1958.																
Fish and Wildlife Service																90,000	90,000
Corps of Engineers										50,000	90,000	90,000	90,000	90,000	90,000		
Spirit Lake (new), Washington	July 1956.																
Fish and Wildlife Service														120,000	120,000	120,000	120,000
Corps of Engineers								60,000	120,000	120,000	120,000	120,000	120,000				
German (new), Washington	July 1957.																
Fish and Wildlife Service															10,000	10,000	10,000
Corps of Engineers									5,000	10,000	10,000	10,000	10,000	10,000			
Subtotal (hatcheries O. & M.):																	
Fish and Wildlife Service		33,150	48,750	48,750	48,750	48,750	48,750	48,750	48,750	88,250	382,200	382,200	592,200	712,200	722,200	812,200	812,200
Corps of Engineers		7,500	28,875	55,000	228,166	333,450	443,450	603,450	668,450	673,950	430,000	430,000	220,000	100,000	90,000		
APPRAISAL OF PROJECT RESULTS																	
Fish and Wildlife Service															30,000	30,000	30,000
Corps of Engineers			10,000	10,000	23,489	27,000	29,500	32,000	25,000	30,000	30,000	30,000	30,000	30,000			

Lower Columbia River Fisheries Development Program, operation and maintenance, showing source of funds—Continued

Project and source of O. & M. funds	Scheduled full operation date	Fiscal year															
		1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
ADMINISTRATION AND INSPECTION																	
Fish and Wildlife Service															$75,000	$75,000	$75,000
Corps of Engineers					$45,600	$50,000	$55,000	$60,000	$60,000	$75,000	$75,000	$75,000	$75,000	$75,000			
Total O. & M. (Fish and Wildlife Service):																	
Fish and Wildlife Service		$33,150	$48,750	$48,750	48,750	48,750	48,750	48,750	48,750	88,250	382,200	382,200	592,200	712,200	827,200	917,200	917,200
Corps of Engineers		7,500	38,875	65,000	297,255	410,450	527,950	695,450	753,450	788,950	535,000	535,000	325,000	205,000	90,000		
STATE OF OREGON																	
HATCHERIES																	
Klaskanine (enlarged), Astoria, Oreg.	June 1953.																
State of Oregon			$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735	$15,735
Corps of Engineers				20,000	30,000	36,540	36,540	36,540	36,540	36,540							
Fish and Wildlife Service											36,540	36,540	36,540	36,540	36,540	36,540	36,540
Big Creek (enlarged), Astoria, Oreg.	June 1953.																
State of Oregon			13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770	13,770
Corps of Engineers				20,000	29,700	36,540	36,540	36,540	36,540	36,540							
Fish and Wildlife Service											36,540	36,540	36,540	36,540	36,540	36,540	36,540
Ox Bow (enlarged), Cascade Locks, Oreg.	June 1953.																
State of Oregon			6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776	6,776
Corps of Engineers				25,000	31,000	36,540	36,540	36,540	36,540	36,540							
Fish and Wildlife Service											36,540	36,540	36,540	3,6540	36,540	36,540	36,540
Metolius (enlarged), Sisters, Oreg.	June 1953.																
State of Oregon				7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594
Corps of Engineers				25,000	28,000	34,540	34,540	34,540	34,540	34,540							
Fish and Wildlife Service											34,540	34,540	34,540	34,540	34,540	34,540	34,540
Bonneville (enlarged), Bonneville, Oreg.	June 1954.																
State of Oregon					24,369	24,369	24,369	24,369	24,369	24,369	24,369	24,369	24,369	24,369	24,369	24,369	24,369
Corps of Engineers							36,540	36,540	36,540	36,540	36,540						
Fish and Wildlife Service												36,540	36,540	36,540	36,540	36,540	36,540
Cedar Creek (Sandy) (new), Sandy, Oreg.	June 1953.																
State of Oregon																	
Corps of Engineers				25,000	31,000	36,540	36,540	36,540	36,540	36,540							
Fish and Wildlife Service											36,540	36,540	36,540	36,540	36,540	36,540	36,540

John Day (new), John Day River, Oreg.	June 1954.																	
State of Oregon																		
Corps of Engineers							34,540	34,540	34,540	34,540	34,540							
Fish and Wildlife Service												34,540	34,540	34,540	34,540	34,540	34,540	34,540
Additional (new), Oregon	June 1954.																	
State of Oregon																		
Corps of Engineers							36,540	36,540	36,540	36,540	36,540							
Fish and Wildlife Service												36,540	36,540	36,540	36,540	36,540	36,540	36,540
Additional (new), Oregon	June 1955.																	
State of Oregon																		
Corps of Engineers								34,540	34,540	34,540	34,540	34,540						
Fish and Wildlife Service													34,540	34,540	34,540	34,540	34,540	34,540
Additional (new), Oregon	June 1956.																	
State of Oregon																		
Corps of Engineers									34,540	34,540	34,540	34,540	34,540					
Fish and Wildlife Service														34,540	34,540	34,540	34,540	34,540
Additional (new), Oregon	June 1957.																	
State of Oregon																		
Corps of Engineers										34,540	34,540	34,540	34,540	34,540				
Fish and Wildlife Service															34,540	34,540	34,540	34,540
Subtotal (hatcheries):																		
State of Oregon			36,281	43,875	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244
Corps of Engineers				115,000	149,700	180,700	288,320	322,860	357,400	391,940	211,240	103,620	69,080	34,540				
Fish and Wildlife Service											180,700	288,320	322,860	357,400	391,940	391,940	391,940	
STREAM IMPROVEMENT																		
Fishways (Oregon):																		
Corps of Engineers					8,000	17,500	22,000	22,000	22,000	22,000	22,000							
Fish and Wildlife Service												22,000	22,000	22,000	22,000	22,000	22,000	
Stream maintenance:																		
Corps of Engineers			4,194	10,000	15,000	17,500	17,500	17,500	17,500	17,500								
Fish and Wildlife Service											17,500	17,500	17,500	17,500	17,500	17,500	17,500	
Stream gaging:																		
Corps of Engineers			32,618	7,500		6,500	6,500	6,500	6,500	6,500								
Fish and Wildlife Service											6,500	6,500	6,500	6,500	6,500	6,500	6,500	
Subtotal (stream improvement):																		
Corps of Engineers			36,812	17,500	23,000	41,500	46,000	46,000	46,000	46,000	22,000							
Fish and Wildlife Service											24,000	46,000	46,000	46,000	46,000	46,000	46,000	
APPRAISAL OF PROJECT RESULTS																		
Corps of Engineers					11,180	39,500	39,000	37,000	35,000	35,000	35,000	35,000	35,000					
Fish and Wildlife Service														35,000	35,000	35,000	35,000	
Total V. & M. (State of Oregon):																		
State of Oregon			36,281	43,875	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244
Corps of Engineers			36,812	132,500	183,880	261,700	373,320	415,860	448,400	472,940	268,240	138,620	104,080	34,540				
Fish and Wildlife Service											204,700	334,320	368,860	438,400	472,940	472,940	472,940	

Lower Columbia River Fisheries Development Program, operation and maintenance, showing source of funds—Continued

STATE OF WASHINGTON

Project and source of O. & M. funds	Scheduled full operation date	Fiscal year															
		1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
HATCHERIES																	
Klickitat (new), Glenwood, Wash.	December 1953.																
State of Washington																	
Corps of Engineers			$22,500	$25,000	$55,000	$70,000	$78,000	$78,000	$78,000	$78,000	$78,000						
Fish and Wildlife Service												78,000	78,000	78,000	78,000	78,000	78,000
Toutle (new), Toutle, Wash.	Do.																
State of Washington																	
Corps of Engineers				$20,000	$40,000	$60,000	$68,000	$68,000	68,000	68,000	68,000						
Fish and Wildlife Service												68,000	68,000	68,000	68,000	68,000	68,000
Cowlitz (new), Packwood, Wash.	July 1954.																
State of Washington																	
Corps of Engineers				25,000	35,000	55,000	68,000	68,000	68,000	68,000	68,000						
Fish and Wildlife Service												68,000	68,000	68,000	68,000	68,000	68,000
Elokomin (new), Cathlamet, Wash.	March 1954.																
State of Washington																	
Corps of Engineers						20,000	58,000	58,000	58,000	58,000	58,000						
Fish and Wildlife Service												58,000	58,000	58,000	58,000	58,000	58,000
Abernethy (new), Longview, Wash.	March 1954.																
State of Washington																	
Corps of Engineers						15,000	43,000	43,000	43,000	43,000	43,000						
Fish and Wildlife Service												43,000	43,000	43,000	43,000	43,000	43,000
Washougal (new), Washougal, Wash.	July 1955.																
State of Washington																	
Corps of Engineers								48,000	48,000	48,000	48,000	48,000					
Fish and Wildlife Service													48,000	48,000	48,000	48,000	48,000
Kalama Addition (enlarged), Woodland, Wash.	September 1954.																
State of Washington						19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000
Corps of Engineers							13,000	13,000	13,000	13,000	13,000						
Fish and Wildlife Service												13,000	13,000	13,000	13,000	13,000	13,000
Grays (new), Long Beach, Wash.	July 1955.																
State of Washington																	
Corps of Engineers								53,000	53,000	53,000	53,000	53,000					
Fish and Wildlife Service													53,000	53,000	53,000	53,000	53,000
Rainy (new), Randle, Wash.	March 1956.																
State of Washington																	
Corps of Engineers								10,000	38,000	38,000	38,000	38,000	38,000				
Fish and Wildlife Service														38,000	38,000	38,000	38,000

Mill (new), Longview, Wash.	March, 1956.																
State of Washington																	
Corps of Engineers								10,000	38,000	38,000	38,000	38,000	38,000				
Fish and Wildlife Service														38,000	38,000	38,000	38,000
New Kalama (new), Woodland, Wash.	September 1956.																
State of Washington																	
Corps of Engineers									53,000	53,000	53,000	53,000	53,000				
Fish and Wildlife Service														53,000	53,000	53,000	53,000
Lewis River (new), Woodland, Wash.	September 1957.																
State of Washington																	
Corps of Engineers										53,000	53,000	53,000	53,000	53,000			
Fish and Wildlife Service															53,000	53,000	53,000
Subtotals (hatcheries):																	
State of Washington						19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000
Corps of Engineers		$22,500	70,000	130,000	220,000	328,000	449,000	558,000	611,000	611,000	283,000	182,000	53,000				
Fish and Wildlife Service											328,000	429,000	558,000	611,000	611,000	611,000	
STREAM IMPROVEMENT																	
Fishways:																	
State of Washington																	
Corps of Engineers		5,000		1,000	8,000	14,000	17,000	20,000	20,000	20,000	20,000	20,000					
Fish and Wildlife Service														20,000	20,000	20,000	20,000
Stream maintenance:																	
State of Washington																	
Corps of Engineers		3,000	10,000	8,500	13,000	13,000	13,000	13,000	13,000								
Fish and Wildlife Service											13,000	13,000	13,000	13,000	13,000	13,000	13,000
APPRAISAL OF PROJECT RESULTS																	
Corps of Engineers			15,000	48,500	103,500	33,000	33,000	33,000	33,000	33,000							
Fish and Wildlife Service											33,000	33,000	33,000	33,000	33,000	33,000	
Total O. & M. (State of Washington):																	
State of Washington					19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000
Corps of Engineers		30,500	95,000	188,000	344,500	388,000	512,000	624,000	677,000	664,000	303,000	202,000	53,000				
Fish and Wildlife Service										13,000	374,000	475,000	624,000	677,000	677,000	677,000	

Lower Columbia River fisheries development program, summary of operation and maintenance program (recapitulation of all agencies) showing source of funds

Project and source of O. & M. funds	Fiscal year															
	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
HATCHERIES																
Fish and Wildlife Service:																
Fish and Wildlife Service	$33,150	$48,750	$48,750	$48,750	$48,750	$48,750	$48,750	$48,750	$88,250	$382,200	$382,200	$592,200	$712,200	$722,200	$812,200	$812,200
Corps of Engineers	7,500	28,875	55,000	228,166	333,450	443,450	603,450	668,450	673,950	430,000	430,000	220,000	100,000	90,000		
State of Oregon:																
State of Oregon		36,281	43,875	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244
Corps of Engineers			115,000	149,700	180,700	322,860	357,400	391,940	391,940	211,240	103,620	69,080	34,540			
Fish and Wildlife Service										180,700	288,320	322,860	357,400	391,940	391,940	391,940
State of Washington:																
State of Washington					19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000
Corps of Engineers		22,500	70,000	130,000	239,000	328,000	449,000	558,000	611,000	611,000	283,000	182,000	53,000			
Fish and Wildlife Service											328,000	429,000	558,000	611,000	611,000	611,000
Subtotal (hatcheries):																
State of Oregon		36,281	43,875	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244
State of Washington					19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000
Corps of Engineers	7,500	51,375	240,000	507,866	753,150	1,094,310	1,409,850	1,618,390	1,676,890	1,252,240	816,620	471,080	187,540	90,000		
Fish and Wildlife Service	33,150	48,750	48,750	48,750	48,750	48,750	48,750	48,750	88,250	562,900	998,520	1,344,060	1,627,600	1,725,140	1,815,140	1,815,140
STREAM IMPROVEMENT																
Corps of Engineers (Oregon)		36,812	17,500	23,000	41,500	46,000	46,000	46,000	46,000	22,000						
Corps of Engineers (Washington)		8,000	10,000	9,500	21,000	27,000	30,000	33,000	33,000	20,000	20,000	20,000				
Fish and Wildlife (Oregon)										24,000	46,000	46,000	46,000	46,000	46,000	46,000
Fish and Wildlife (Washington)										13,000	13,000	13,000	33,000	33,000	33,000	33,000
Subtotal (stream improvement):																
Corps of Engineers		44,812	27,500	32,500	62,500	73,000	76,000	79,000	79,000	42,000	20,000	20,000				
Fish and Wildlife Service										37,000	59,000	59,000	79,000	79,000	79,000	79,000
APPRAISAL OF PROJECT RESULTS																
Fish and Wildlife Service:																
Fish and Wildlife Service														30,000	30,000	30,000
Corps of Engineers		10,000	10,000	23,489	27,000	29,500	32,000	25,000	30,000	30,000	30,000	30,000	30,000			
State of Oregon:																
Corps of Engineers				11,180	39,500	39,000	37,000	35,000	35,000	35,000	35,000	35,000				
Fish and Wildlife Service													35,000	35,000	35,000	35,000

State of Washington:																
Corps of Engineers			15,000	48,500	103,500	33,000	33,000	33,000	33,000	33,000						
Fish and Wildlife Service											33,000	33,000	33,000	33,000	33,000	33,000
Subtotal (appraisal of project results):																
Corps of Engineers		10,000	25,000	83,169	170,000	101,500	102,000	93,000	98,000	98,000	65,000	65,000	30,000			
Fish and Wildlife Service											33,000	33,000	68,000	98,000	98,000	98,000
ADMINISTPATION AND INSPECTION																
Corps of Engineers				45,600	50,000	55,000	60,000	60,000	75,000	75,000	75,000	75,000	75,000			
Fish and Wildlife Service														75,000	75,000	75,000
Total O. & M. funds (all agencies):																
State of Oregon		36,281	43,875	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244	68,244
State of Washington					19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000
Corps of Engineers	7,500	106,187	292,500	669,135	969,150	1,323,810	1,647,850	1,850,390	1,928,890	1,467,240	976,620	631,080	292,540	90,000		
Fish and Wildlife Service	33,150	48,750	48,750	48,750	48,750	48,750	48,750	48,750	88,250	599,900	1,090,520	1,436,060	1,774,600	1,977,140	2,067,140	2,067,140
Grand total	40,650	191,218	385,125	786,129	1,105,144	1,459,804	1,783,844	1,986,384	2,104,384	2,154,384	2,154,384	2,154,384	2,154,384	2,154,384	2,154,384	2,154,384

Lower Columbia River fisheries development program, summary of 10-year program (recapitulation of all agencies)

	Total estimated cost	Funds available and required				Funds required to complete				
		Available to June 30, 1951	Estimated additional fiscal year 1952	Estimated additional fiscal year 1953	Additional to complete	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957
Construction:										
Fish and Wildlife Service	$5,255,274	$1,547,423	$627,665	$623,686	$2,456,500	$623,686	$1,242,500	$585,000	$187,000	$442,000
State of Oregon	7,879,532	1,245,488	195,100	1,382,244	5,056,700	1,382,244	1,550,700	1,273,000	1,123,000	1,110,000
State of Washington	7,579,072	1,441,402	609,735	2,250,935	3,277,000	2,250,935	1,547,000	900,000	430,000	400,000
Subtotal (construction)	20,713,878	4,234,313	1,432,500	4,256,865	10,790,200	4,256,865	4,340,200	2,758,000	1,740,000	1,952,000
Operation and maintenance:										
Fish and Wildlife Service	3,100,930	46,375	65,000	297,255	2,672,300	297,255	530,450	627,950	755,450	758,450
State of Oregon	2,072,712	36,812	132,500	183,880	1,690,520	183,880	369,320	407,860	440,400	472,940
State of Washington	2,274,000	30,500	95,000	188,000	1,935,500	188,000	363,500	436,000	512,000	624,000
Subtotal (O. & M.)	7,447,642	113,687	292,500	669,135	6,298,320	669,135	1,263,270	1,471,810	1,707,850	1,855,390
Total (all agencies)	28,161,520	4,348,000	1,725,000	4,926,000	17,088,520	4,926,000	5,603,470	4,229,810	3,447,850	3,807,390

BREAKDOWN OF EXPENDITURES

Mr. RABAUT. In the rivers and harbors item, I notice that your estimated obligations for 1953 will be $4,941,000. Flood control, fish and wildlife studies will amount to $40,000. I understand these funds will be transferred to you by the corps. What are your plans for 1953 in connection with these funds and of your work today?

Dr. MEEHEAN. We have submitted with our statement the details of the proposed construction under the 1953 budget.

It is contemplated that for the State of Oregon there will be allotted $1,566,124 for the construction of hatcheries, stream improvements, and for operation and maintenance of facilities. The State of Washington will receive $2,438,935 for the same purposes, and the Fish and Wildlife Service, $920,941.

Mr. RABAUT. Does that form any part of this $4,941,000?

Dr. MEEHEAN. These amounts comprise the bulk of that sum. These funds are allotted to the separate States—Oregon and Washington—to help in carrying out this program.

Mr. RABAUT. You have $40,000 there for studies, flood control, fish and wildlife.

Mr. DIEFFENBACH. That is in my purview.

Mr. RABAUT. That will be transferred to you from the Corps of Engineers?

Mr. DIEFFENBACH. Yes.

FUTURE PLANS AND WORK DONE TO DATE

Mr. RABAUT. What are your plans in connection with these funds for 1953 and your work to date?

Mr. DIEFFENBACH. The work of the Fish and Wildlife Service incident to flood control projects has to do with the investigation of the projects that are to be built by the Corps of Engineers with the end in view of determining the possible effect those projects may have upon the fish and wildlife resources within the zone of influence of these projects. As best we can determine from the information available to us at this time, there are approximately 54 Corps of Engineers projects that should be investigated during the coming fiscal year, and which we will try to investigate during the coming fiscal year. They will be studied in the fashion I have just described.

After having completed these investigations and, in fact, during the process of our investigations, we consult with the district engineer's office, with the end in view of finding ways and means to mitigate losses if we find evidence that losses will occur or to improve the environmental conditions by the use of the facilities of the Corps of Engineers in their projects——

Mr. RABAUT. You are going to get $40,000 for this.

Mr. DIEFFENBACH. Yes, sir.

Mr. RABAUT. And my question is whether you can tell us what your plans for 1953 are in connection with these funds and your work to date. Give us an example of one project. What do you do? You have $40,000. What are you going to do there?

Mr. DIEFFENBACH. The first step we take on this project is to obtain the basic data from the Corps of Engineers, what their plans are.

Mr. RABAUT. You ask them what their plans are. What do you do?

Mr. DIEFFENBACH. Then we go on the ground and make an investigation of the fish and wildlife resources which come within the zone of influence on this project.

Mr. RABAUT. You get information from whom? The State?

Mr. DIEFFENBACH. We gather information as a result of our own investigations and from the State conservation department. With that information we arrive at the relative importance of the fish and wildlife resources.

Mr. RABAUT. In that particular area affected by that project?

Mr. DIEFFENBACH. That is right.

NUMBER OF PROJECTS STUDIED

Mr. RABAUT. How many of those projects do you have?

Mr. DIEFFENBACH. As I remarked before, sir, we have on our list approximately 54 projects.

Mr. RABAUT. Then you use less than $1,000 on the study of a project; is that right?

Mr. DIEFFENBACH. No, sir. We use some of our own money for the preliminary phases of these investigations.

Mr. RABAUT. Where do you get that money from?

Mr. DIEFFENBACH. We get that by direct appropriation to the Department of the Interior and in addition to the preliminary investigations of Corps of Engineers' projects it is used for similar investigations of Bureau of Reclamation's projects and complete studies of Federal Power Commission cases. We estimate that the average cost of making the detailed investigations which follow and which should be financed by the construction agency amounts to an average of about $2,500 per project. I doubt very much, sir, that we will be able to complete the examination of all the 54 projects in the coming fiscal year, but we shall do our best to do that.

CONTRIBUTIONS FROM STATES

Mr. RABAUT. Please list for the record the annual contributions of the States involved in this project.

Dr. MEEHEAN. The expenditures of the State of Oregon on salmon conservation in the Columbia Basin for the biennium beginning July 1, 1951, through June 30, 1953, will amount to about $503,001.

For the State of Washington, beginning the biennium April 1, 1951, to March 31, 1953, they will spend a total of approximately $350,000. During the same period Washington State will spend approximately $3,000,000 elsewhere in the State on fisheries conservation.

REPORT OF PROGRESS

Mr. RABAUT. What actual progress and success have you had to date with this program?

Dr. MEEHEAN. Up to the present time the returns haven't been such that we can actually measure them because it takes 4 years for the return of these salmon to their original spawning grounds. However, the biologists' surveys over the last year on those streams where we have made stream improvements and where we have put in fish ladders or removed falls, have indicated that the spawning success has been

greatly improved in those areas. I myself saw some of those streams in June and the amount of spawning there is tremendous.

Mr. RABAUT. To what extent now do you think you will be able to mitigate fish losses at the actual and proposed dams on the Columbia and its tributaries? You are creating foster homes, so to speak, for them to go to.

Dr. MEEHEAN. It is expected when the program is completed that the improvements will result in production that will approximate one-half to two-thirds of the present production of the watershed. There will be substantial losses. It is a very difficult thing to estimate at this time without previous experience to go on.

Mr. RABAUT. You think that is an answer we probably could get at a future time?

Dr. MEEHEAN. That is right.

Mr. RABAUT. When do you expect to develop measures which will mitigate these losses?

Dr. MEEHEAN. This program is intended to meet that need.

Mr. RABAUT. In other words, what progress are you people making? What kind of progress are you making?

Dr. MEEHEAN. The stream clearance programs in Washington and Oregon are substantially complete. The hatchery program is well under way.

Mr. RABAUT. We appropriate money for a project like this and are looking for results. When do you think we are going to get them?

Dr. MEEHEAN. Until we get the returns from these fish, we do not know exactly what the effects will be.

Mr. RABAUT. When will this return program start showing up? You have some of them showing up already.

Dr. MEEHEAN. The first stream improvements were put in 2 years ago. In about 2 years from now we will be able to estimate the first returns in some of these streams where we have stream-clearance projects.

(There was discussion off the record.)

SPAWNING AREAS

Mr. RABAUT. Tell us what your experience has been with these newly created spawning areas that were substituted for the areas that were eliminated by the impounding of waters behind the dam.

Dr. MEEHEAN. In the case of the Salmon blocked by the Grand Coulee project we transferred the fish into areas where we knew the spawning conditions were good, and substantial runs have been developed. In fact, the transferred runs have been developed to the extent that they compensate for the loss of spawning areas above Grand Coulee.

Mr. RABAULT. Do you think that will be the general experience?

Dr. MEEHEAN. It will be to the extent that spawning areas are available to improve and make accessible to these salmon.

Mr. RABAUT. Will it be necessary in some places to create spawning areas? We cannot lose this industry, you know.

Dr. MEEHEAN. We know of no method to create new spawning areas except to eliminate barriers that obstruct access to spawning areas and at the present time we are laddering quite a few falls, blasting out some of them and making more streams available to spawning.

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COMPARISON OF SPAWNING AREAS

Mr. RABAUT. What about the comparison between these spawning areas and those at Grand Coulee as to the amount of spawning areas?

Dr. MEEHEAN. We have a map to show that.

Mr. HAGEN. This area [indicating] has been entirely eliminated for salmon. Salmon cannot get upstream beyond this heavy line because of the blockades presented by Grand Coulee in the Columbia, Swan Falls in the Snake River, and many other smaller dams in tributary streams.

This nonaccessible area is 62 percent of the watershed. Salmon have limited access to this 24 percent of the total watershed further downstream. Salmon ascend the Snake River to Swan Falls, and the Columbia River up to Chief Joseph; up the Okanagan to Oliver Dam, and into other tributary streams varying distances. The salmon relocation program on the Grand Coulee involved the transfer of the fish to the Methow, Okanagan, and Wenatchee Rivers. The fisheries program is concerned with the development of salmon populations in the streams of the remaining 14 percent of the watershed—in general, downstream from McNary Dam, plus the Yakima River.

IDENTIFICATION OF AREAS

Mr. RABAUT. Identify for the record that area that you have been pointing to.

Mr. HAGEN. It is downstream from the Bonneville Dam, downstream from the Ariel Dam on the Lewis River, downstream on the Willamette River from Willamette Falls. All those areas downstream are relatively unobstructed by man, but comprise only 2 percent of the watershed.

Mr. FORD. Do you mean 2 percent of the geographical area or 2 percent of the spawning potential?

Mr. HAGEN. Two percent of the geographical area.

Mr. FORD. What percentage of the spawning?

Mr. HAGEN. I am sorry that I cannot tell you. We wanted to determine that ourselves, but it is almost impossible to do. We would have to survey every tributary stream.

DIFFICULTY IN ESTIMATING FISH LOSSES

Mr. RABAUT. What loss is now suffered at Bonneville and what do you anticipate at the other projects to be constructed, or now in the construction stage?

Mr. HAGEN. The only records we have at Bonneville are those for the downstream migrants, of which there is an estimated loss of about 15 percent. We have not been able to satisfactorily measure the loss of adults upstream-bound.

What the effect of the other dams will be, we do not know. Those losses will be determined through experience.

USE OF FISH LADDERS

Mr. RABAUT. Is it your feeling that if a fish mounts a ladder 90 feet, he won't go 115 feet?

Dr. MEEHEAN. We don't know. It depends on the amount of energy that particular fish has.

Mr. RABAUT. We cannot talk about any one fish. We have to talk about the aggregate. What will fish—using the term for plural—what will fish do? If they make 90 feet, in your opinion, as one interested in this project and deeply concerned in the fish and wildlife industry, what will they do about 20 feet more?

Dr. MEEHEAN. We can safely assume that once a salmon finds the entrance to a fish ladder he can ascend 50, 100 or 150 feet provided he has sufficient reserve energy. The sucess of the ladder will be determined by the numbers of fish having sufficient energy remaining after the ascent to reach their spawning areas.

Mr. RABAUT. I agree with you.

Dr. MEEHEAN. Furthermore, you have a delay at the base of the dam which might affect the fish that go somewhat farther up. The fish that go way upstream, such as the spring run and bluebacks, probably would make a single dam all right, and still be able to reach the spawning area. The fall-run Chinooks that spawn in the lower reaches of the rivers where, also, the dams are to be built would be affected seriously by the obstructions through delay and use of energy in climbing.

Mr. RABAUT. You confirmed my own thoughts in the matter.

We really won't know about it until we have more experience.

I do think the establishing of new homes for them below these falls will be a great thing.

METHODS USED AT THE M'NARY DAM

Have you had any experience as yet at McNary?

Dr. MEEHEAN. No. This year there was a temporary fishway put in during the time there was construction going on, and presumably most of the fish made it over McNary. Some of the fish passing over the fishways at Rock Island Dam had marks on them—injuries of one kind or another—acquired in passing McNary Dam by way of the temporary facilities. We are reasonably certain that these injuries were sustained at McNary as injured fish in such numbers had never before been observed at the Rock Island fishways.

But to our knowledge it did not seriously affect the run because of the record number of fish comprising the migration run.

Here is a picture of a falls and a fish ladder under construction (Scappoose Falls). I am sorry I don't have a picture of the completed ladder, but it will give you some idea of the stream improvement work. Here is a highline erected for stream clearance, removal of log jams, et cetera, on the Lewis River.

This is the type of falls we are either laddering or blasting out (Mill Creek).

These photos show one portion of the Klickitat River Falls before and after that falls had been blasted out. The falls was a barrier during the low water seasons of the year, so only a small portion of

the run could get up. The State of Washington removed that as part of this program so it is accessible all through the year.

POSSIBLE EFFECT OF THE DALLES AND ICE HARBOR ON FISH RUNS

Mr. RABAUT. Do you believe it is wise from the standpoint of the fish runs to proceed with the construction of The Dalles and Ice Harbor which are to be closed in the fall of 1956, at this time?

Mr. MEEHEAN. The Dalles Dam will be an obstacle to salmon but there are compensating factors which lead us to believe that the final result may prove to be beneficial. The dam will eliminate the large Indian fishery at Celilo Falls, as well as some commercial fishing in the area. Furthermore, passage of adult salmon over the dam possibly will be no more difficult than passage over the falls at present.

With regard to Ice Harbor, we are certain that it will have an adverse affect on the salmon runs since the forebar of the dam will inundate a portion of the main stream which is the spawning area for the fall-run salmon and losses will occur because of delay. The magnitude of these losses we are not able to predict.

Mr. RABAUT. Can your agency assure the committee at this time that these dams will not be harmful to the fish runs, or that the loss will be of no appreciable amount?

Dr. MEEHEAN. We couldn't assure you of that.

Mr. RABAUT. Do you anticipate you will ever be able to give such assurances to the committee? If so, when?

Dr. MEEHEAN. If it were possible to do some research on the construction of devices that could be used to get fish over the dams, both upstream or downstream, we could probably come up with a fairly sound answer. Under the present situation we have to wait for experience at dams such as the McNary.

DEVICES USED

Mr. RABAUT. Do you have some other suggestions besides the fish ladders and elevators? We tried the elevators, but they don't work so well.

Dr. MEEHEAN. The only experience that we have had is with fishways and elevators and the only way we can answer that question is by conducting some experimental work.

Mr. RABAUT. Along what lines?

You want money for experimental purposes and you do not know what the experiment will be.

Dr. MEEHEAN. The experiment should consist of the use of devices such as we already have and their adaptation to higher dams than we have. We have a good deal of information on other types of devices, such as a high pressure lock. One of those is being tried at McNary at the present time. The city of Tacoma, through their engineers, have come up with another device. If somebody were able to do some research on it to see whether or not it would work, or make it work, that would be helpful.

(Discussion off the record.)

Mr. RABAUT. Any questions, Mr. Ford?

Mr. FORD. This program, which for fiscal year 1953, will cost $4,941,000, including all of the specific projects you have set up in this budget volume which you have given members of the committee?

Dr. MEEHEAN. That is right. However, $15,000 for study of Corps of Engineer projects throughout the country is not included in that budget.

KLICKITAT RIVER

Mr. FORD. Are these pictures which you have also given to members of the committee illustrative of some of the work which you are doing or anticipate doing with the funds requested in this budget?

Dr. MEEHEAN. That is work that is being done at the present time. The projects you see there have been accomplished.

That is the type of work that is being done and in addition we are constructing fish hatcheries as a supplement to natural spawning.

Mr. FORD. In other words, these pictures you have here are on tributaries of the Columbia in the main?

Dr. MEEHEAN. Yes, the Klickitat is a tributary.

Mr. FORD. The thory is that the loss you have suffered to the east and north of that line on the map will be made up by providing more fertile spawning areas in the lower regions of the Columbia Valley?

Dr. MEEHEAN. That is right.

This stream [pointing to Klickitat River] is particularly typical of many others. Our objective was to clear this blockade so the fish could go up and utilize the spawning area that had been available only to a limited degree. We have done that throughout the whole lower-river area. Most of these projects are completed on the small streams. These triangular symbols indicate completed projects.

STREAM CLEARANCE

Mr. FORD. What percentage of your over-all program has been completed in that regard?

Mr. HAGEN. Stream clearance only?

Mr. FORD. Yes.

Mr. HAGEN. I would say about 50 percent of the entire stream improvement program is complete.

Mr. FORD. How much further along percentagewise will you go if you get the full amount requested in fiscal year 1953, both over-all and in the stream-clearance program?

Dr. MEEHEAN. That will represent about 80 percent of the stream clearance program.

Mr. HAGEN. We cannot give a total stream clearance figure. The stream clearance program is almost complete with the exception of the few larger projects. The Klickitat is a large one. We have one at Willamette Falls where ladders are required to permit access of salmon to all this area [indicating on map].

Mr. FORD. How much will that project cost out of the 1953 fiscal year budget?

Mr. HAGEN. $257,000.

Mr. FORD. That is a key part of the budget request this year?

Mr. HAGEN. That is correct. It is the first project to provide relatively free access of Salmon to the Willamette River above the Falls.

Mr. FORD. Is that the major project under 1953 fiscal year budget funds?

Dr. MEEHEAN. The item is $257,100. That is for the west ladder on Willamette Falls.

HOUSING FACILITIES

Mr. FORD. I notice in looking at the budget throughout here you have requests for residences, $32,000, $16,000, et cetera. Where do you put those residences?

Dr. MEEHEAN. Those residences are built on hatcheries in order to conduct the hatchery operations properly because we have to have men living on the projects. Furthermore, most of these hatcheries are in relatively isolated places where public housing is not available. Some of them are 30 to 40 miles to the nearest town of any size at all. In this particular area we probably are building more residences than we would ordinarily in our hatchery program simply because housing is not available.

Mr. FORD. What type of residences are these?

Dr. MEEHEAN. They are modern residences of two and three bedrooms.

Mr. FORD. Do you have residences on certain properties now which the Fish and Wildlife Service operates?

Dr. MEEHEAN. Yes. All of our hatcheries have anywhere from three to five residences on them.

RENTAL POLICIES

Mr. FORD. Who sets the rental policy on your residences?

Dr. MEEHEAN. That is established by a committee in the Department.

Mr. FORD. What is your rental policy as to the amount to be paid each month by the occupant?

Dr. MEEHEAN. The average is between $20 and $25 a month, somewhere in that neighborhood at the present time.

Mr. FORD. Would you charge that low rental for a three-bedroom house costing $16,000?

Dr. MEEHEAN. We had been in the process of revising our rentals upward, but we received a amendment to Rent Regulation 1 (Federal Register, January 31, 1952, vol. 17, No. 22) which has the effect of freezing rentals on Government projects.

Mr. FORD. Even though Federal wages have gone up?

Dr. MEEHEAN. That is right.

Mr. FORD. Does your department agree with Mr. Woods' decision?

Dr. MEEHEAN. I don't know that we can argue with it. We have been in the process for a period of about a year or a year and a half now of revising the rental rates within the Department. The Secretary has set up a committee that has been working on that project for some time. They were about to come out with some recommendations on revising rentals upward, close to 100 percent.

Mr. FORD. Which is an indication that your department was appreciative of the situation as far as the Federal Treasury was concerned.

Dr. MEEHEAN. That is right. But this directive has stopped that. At least, so I understand. I am not in a position to state definitely.

Mr. FORD. Could you put in the record a chart showing the rentals you charge, not on just one residence, but some statement showing your general policy for residences of a certain capacity?

Dr. MEEHEAN. I will be glad to.

Mr. FORD. And a history of the last 5 years as to whether any changes have been made, et cetera?

Dr. MEEHEAN. I will be glad to do that.

(The information requested follows:)

The average rental rate for Fish and Wildlife Service three-bedroom houses ranges from $20 to $24 a month, depending on the location of the quarters in relation to schools, hospitals, doctors, shopping centers, and so forth. Two-bedroom houses rent for approximately $2 less per month. There has been no change in rental rates over the last 5 years. The Branch of Game-fish and Hatcheries of the Service rents approximately 233 residences, of which 62 percent are occupied by individuals receiving a salary of $3,200 or less and 98 percent by individuals receiving salaries of $4,200 or less. The State of Washington, which pays approximately equivalent salaries, provides housing in addition or, in the event housing is not available, allows the individual additional funds to compensate for outside rentals. The reason for this is that the conditions at their hatcheries are very similar to those at Service hatcheries with regard to isolation and lack of rental housing in the vicinity.

(Discussion off the record.)

CONTROL OF STREAMS

Mr. FORD. What control do you have over the streams where the Federal Power Commission has authorized private industry to build?

Dr. MEEHEAN. Mr. Dieffenbach can answer that.

Mr. DIEFFENBACH. We have control to this extent, that we can make recommendations to the Federal Power Commission for facilities for the conservation of fishery resources of those streams and as long as those recommendations are consistent and reasonable, the Federal Power Commission will write those into the permit issued.

Mr. FORD. If a private power company wants to build a project on a certain river, they have to agree when that project is built certain facilities will be included which will conform to your specifications?

Mr. DIEFFENBACH. Yes, sir. We try to make those specifications so that they are not confiscatory, to reasonably conform to the primary objective of the project.

Mr. FORD. But they are desirable from the point of view of preserving the salmon industry in that area?

Mr. DIEFFENBACH. Yes, sir. In some cases we have even been compelled to oppose in toto the construction of dams, for the reason that, in our judgment, they would, by their very nature, destroy irreplaceable fish resources.

Mr. FORD. All the costs for those facilities which are written in are borne by the private utility?

Mr. DIEFFENBACH. Yes, sir.

PROPOSED DAM ON THE COWLITZ RIVER

Mr. FORD. Have you had any trouble in getting any cooperation in that regard?

Mr. DIEFFENBACH. We have had some difficulty in that regard. The city of Tacoma is planning to build two very high dams on the

Cowlitz, which have been authorized by the Federal Power Commission. One of the conditions in the permit—I cannot quote it exactly, but this is for the purpose of it—is that the city of Tacoma will cooperate with the State and Fish and Wildlife Service to supply facilities adequate and satisfactory for the passage of the fish over those dams. That involves new problems for all concerned, the people interested in fish conservation as well as the engineers because they are quite high dams.

Mr. FORD. Will this project that you mentioned on the Cowlitz be a dam built by the municipal authority? Those are not private utilities that are constructing them; are they?

Mr. DIEFFENBACH. That is correct. The city of Tacoma sponsored the project and will finance the project. It will be part of the city system to supply power.

Mr. FORD. Doesn't the city of Tacoma or a portion of its citizens derive certain benefits from the salmon industry?

Mr. DIEFFENBACH. That is correct. Perhaps by indirection. The State conservation department and the fishery industry in the State are opposed to this project, so we have a divided interest in the State of Washington with regard to these dams. One is represented by the city which wants the development and the other is represented by conservation interests and more particularly the fishery industry.

Mr. FORD. The facilities that Fish and Wildlife Service and the State conservation department have recommended will protect the salmon industry?

Mr. DIEFFENBACH. No, sir. We have not been able to satisfy ourselves as to what devices will carry the fish over the dams or bring the fingerlings down through the dams, because they are very, very high dams. That is a subject on wich Dr. Meehean touched a while ago in discussion with the chairman.

FISH AND WILDLIFE SERVICE RECOMMENDATION

Mr. FORD. Has the Fish and Wildlife Service recommended against the construction of either of these projects?

Mr. DIEFFENBACH. Yes, sir; we did.

Mr. FORD. Despite your objections, the Federal Power Commission has authorized the construction of them?

Mr. DIEFFENBACH. Yes, sir.

Mr. FORD. Have they started construction?

Mr. DIEFFENBACH. No, sir; not yet; that is, actual construction. They are doing some preliminary, exploratory work.

Mr. FORD. Are there any facilities in these proposed structures that will be beneficial to the preservation of the salmon industry?

Mr. DIEFFENBACH. Not as presently designed, there are not, sir.

SPAWNING AREAS ABOVE PROPOSED DAM

Mr. FORD. Is there a substantial amount of spawning areas above these two projects that are to be constructed?

Mr. DIEFFENBACH. There are.

Mr. FORD. And unless certain facilities are included, the spawning areas will be lost in toto?

Mr. DIEFFENBACH. That is our best guess on it; yes, sir.

Mr. FORD. Are there others who say you are wrong?

Mr. DIEFFENBACH. None that I know of, none that can speak with authority on the subject.

Mr. HAGEN. There are no fisheries people who say the dams will not be harmful.

Mr. FORD. There is no controversy on that point?

Mr. HAGEN. No, sir.

Mr. FORD. The conflict is strictly between the power people and the fishing industry?

Mr. HAGEN. It amounts almost to a controversy between the city of Tacoma and the rest of the State. Both State conservation departments, as well as the industry have opposed the dams.

INVESTMENTS MADE ABOVE PROPOSED DAM

Mr. FORD. Do you now have facilities above the proposed structures where the Federal Government has put money into fish and wildlife projects?

Mr. HAGEN. Yes, we have.

Dr. MEEHEAN. We had money in the budget for the Cowlitz hatchery, part of which was developed. They put in the pipeline and developed the site preparatory to the construction of the hatchery. That facility is above those dams. As a result of the Federal Power Commission's directive, we stopped them from going ahead up there. Also, some stream clearance and stream improvement has been done above that area.

Mr. FORD. And all of that will be lost if these two projects are constructed?

Dr. MEEHEAN. They will be lost.

The State of Washington also has a hatchery of their own above there that has been in operation for some time, which will be lost.

FUNDS EFFECTED IN FISCAL 1953 BUDGET

Mr. FORD. Do you have any funds in the fiscal year 1953 budget for anything above those two projects?

Dr. MEEHEAN. Yes, we have a small amount for the Cowlitz hatchery. Of course, we didn't anticipate that this order would come out.

Mr. DIEFFENBACH. The budget was written before the order came out.

Mr. FORD. How long ago was it since that order was promulgated?

Dr. MEEHEAN. That came out last December.

Mr. DIEFFENBACH. I may say for your benefit and perhaps for the record that the State conservation department has taken steps to file suit to stop the construction of these dams. They think they have legal authority so to do.

ALTERNATIVE PROJECTS

Mr. FORD. Are there any alternative projects that give adequate power, that would provide adequate power to the city of Tacoma, which would provide for the preservation of the salmon industry?

Mr. DIEFFENBACH. I am not able to give you a straight-line answer on that, but the people who are better acquainted with the Columbia

River Basin say that there are many other sites, perhaps not as convenient to the city of Tacoma, but there are others at which dams could be constructed without damage to migratory fish.

ICE HARBOR WORK NOT INCLUDED IN 1953 BUDGET

Mr. FORD. How much less would you need for your budget of 1953 if Ice Harbor was not included in the budget for 1953?

Dr. MEEHEAN. Ice Harbor does not affect our budget as it now stands. This program, as we have outlined it, is intended to mitigate the general effect of all the dams that will be constructed in the area. When the actual construction of Ice Harbor takes place, there may be a need for some emergency work there of one kind or another to take care of any run that might be blocked temporarily, but that is something that can be taken care of, I presume, in the Ice Harbor budget.

The lower Columbia River program as such is not intended to take care of those particular projects.

Mr. FORD. If you get the money that is requested in this budget presentation, that will bring you practically up to schedule, will it?

Dr. MEEHEAN. The program will be substantially closer to schedule.

Mr. FORD. I think it might be helpful for the record to have a chart of what you anticipated when you laid out your program. Was it a 10-year program?

Dr. MEEHEAN. The original program contemplated an appropriation of $500,000 in 1948, and $3,000,000 during each of the next 5 years, or a total of $15,500,000 through 1953. Thereafter, lesser amounts through 1957—the end of the 10-year program. Actually we have received $6,978,000 and the 1953 budget request would bring this total to $11,091,000.

Mr. FORD. That is all right. That is all I have, Mr. Chairman.

Mr. RABAUT. That is all, gentlemen. Thank you.

WEDNESDAY, FEBRUARY 6, 1952.

Mr. RABAUT. General Chorpening, you had some additional statements you wished to make to the committee, and we will be glad to hear you at this time.

General CHORPENING. Mr. Chairman, first in connection with the discussion of the Folsom project in California, the question was raised as to the type of spillway, flip buckets, and so forth, and I would like to have Colonel Hiatt give to the committee a statement concerning those structures.

(Off-record discussion.)

ENGINEERING NEWS RECORD INDEX

General CHORPENING. I want to go on the record, Mr. Chairman, to explain a little bit about the Engineering News Record. General Pick made the statement that in the past year the Engineering News Record Index, over-all, had gone up 5.8 percent.

Mr. RABAUT. Yes.

General CHORPENING. That is a country-wide figure, an average, and in some localities it would go up more, say, for some materials and maybe not as much as for some others.

Also, the index is made up of many factors. I have a sheet here which shows the various factors broken down as between the various materials—cement, structural steel, sand, lumber, common brick, ready-mixed concrete, structural tile, and labor.

Mr. RABAUT. This statement shows the fundamental items upon which the index is predicated.

General CHORPENING. Yes. This particular sheet shows the percentage changes between 1950 and 1951. The over-all change was actually 7.06. In some items, as you will note, it is as high as 13.4 percent, whereas with regard to bricklayers, country-wide, it is only 5 percent.

This sheet shows the over-all trends for various items, and indicates that in some the index might have gone down, whereas in others the index went up. This explains one point the committee raised, that on some jobs the index was 5.8 percent, whereas on others it was lower or higher. I just wanted to be sure that the committee understood the reason for it.

Mr. RABAUT. We are glad you made the explanation, and without objection we will insert this statement in the record.

(The statement referred to follows:)

Monthly report on Engineering News Record Construction Cost Index

Engineering News Index	June 1951	May 1951	June 1950	Percentage change June 1950, June 1951	Percentage factor of importance of each item in index June 1951
Materials:					
Cement (6 barrels×$3.158)	18.95	18.92	17.79	+6.52	3.49
Structural steel (25 hundredweight×$3.650)	91.25	91.25	85.00	+7.35	16.82
Lumber (1.088 MBH×$103.06)	109.48	112.13	98.06	+11.65	20.17
Subtotal, materials	219.68	222.30	200.85	+9.38	40.48
Labor: Common labor (200 hours×$1.615)	323.00	321.60	305.60	+5.69	59.52
Total, materials and labor	542.68	543.90	506.88	+7.06	100.00

ENGINEERING NEWS RECORD, 20 CITIES AVERAGE

	Prices			Percentage change of prices, June 1950 to June 1951
	June 1951	May 1951	June 1950	
Materials:				
Cement, bulk, per barrel	$3.158	$3.153	$2.965	+6.5
Structural steel, per hundredweight	3.650	3.650	3.400	+7.4
Sand, per ton	2.085	2.093	1.968	+5.9
Lumber, 2×4, fir, HBM	109.955	111.588	99.441	+10.5
Lumber, 2×4, pine, HBM	93.517	95.416	82.433	+13.4
Common brick, M	31.102	31.275	28.250	+10.1
Ready-mix concrete, per cubic yard	10.945	10.900	10.333	+5.9
Structural tile, 3×12×12, per M	143.964	143.964	132.900	+8.3
	Wage rates			
Labor:				
Common labor	$1.615	$1.608	$1.528	+5.7
Skilled labor	2.648	2.629	2.517	+5.2
Bricklayers	2.923	2.900	2.783	+5.0
Structural iron workers	2.604	2.381	2.478	+5.1
Carpenters	2.417	2.408	2.289	+5.6

Mr. FORD. How is the Engineering News Record Index supported; by subscriptions?

General CHORPENING. This is a service that is rendered by the Engineering News Record, which is one of the leading publications dealing with construction and engineering matters. It has a wide circulation, and as far as I know, Mr. Ford, they provide this as a service, and of course it helps them out in their circulation.

Mr. FORD. In other words, it is really a technical magazine that supplies information on construction matters.

General CHORPENING. Yes; and it is a very reliable magazine. I have known the editors and members of the staff for a good many years. They are top people; it is most reliable and the construction industry and the engineers accept this as being as reliable as any source of information that can be obtained today. It is utilized throughout the engineering and construction field.

Mr. FORD. There is nothing comparable that is published by any governmental agency?

General CHORPENING. Not that I am aware of.

Mr. Chairman, there is one other matter that I would like to mention off the record.

Mr. RABAUT. Very well.

(Off-record discussion.)

RECREATIONAL POLICIES AT RESERVOIRS

Mr. RABAUT. General what is the over-all policy of the Corps of Engineers with reference to recreational development at the reservoirs?

General CHORPENING. I have a statement I would like to read on that subject.

(The statement is as follows:)

STATEMENT RE POLICY OF THE CORPS OF ENGINEERS ON PUBLIC USE OF CIVIL WORKS PROJECTS

1. Section 4 of the Flood Control Act approved December 22, 1944 (Public Law No. 534, 78th Cong.), as amended by the Flood Control Act of 1946, provides that the Chief of Engineers under the supervision of the Secretary of the Army is authorized to construct, maintain, and operate public park and recreational facilities in reservoir areas, under the control of the Department of the Army and to permit the construction, maintenance, and operation of such facilities. The Secretary of the Army is authorized to grant leases of lands, including structures or facilities thereon, in reservoir areas for such periods and upon such terms as he may deem reasonable, provided that preference shall be given to Federal, State, and local governmental agencies * * *. In accordance with this authority, it is the policy of the Corps of Engineers to administer lands for each project as follows:

(*a*) Land and water areas of civil-works projects, under jurisdiction of the Corps of Engineers, are administered and maintained to obtain maximum sustained public benefits.

(*b*) The requirements for the purposes for which a project is authorized and constructed govern the extent and nature of the provisions that may be made for other purposes.

(*c*) In planning all projects, full consideration is given to all collateral uses of lands and water areas, including, but not limited to, public park and recreational use, farming, grazing, wildlife management, industrial use, soil conservation, forestry, mosquito control, sanitation, pollution, and health and safety of the visiting public.

(*d*) In order that collateral uses may be enjoyed by the public, allocation of project lands is directed to uses and developments that best serve the general public needs.

(e) Private exploitation and despoilment of areas is not tolerated.

(f) Construction of such facilities as are necessary to provide for the best use of the project area and for the health and safety of the general public will be undertaken by the Corps of Engineers insofar as funds are appropriated by Congress for this purpose.

(g) All plans for development of the potentialities of the land and water areas are prepared in close cooperation with interested Federal, State, and local governmental agencies and these agencies are encouraged to obtain licenses for public park and recreational area management and for wildlife management. In addition, counties are encouraged to properly zone adjoining private lands to preserve and enhance values.

That is the general policy. Under the present emergency we have a policy and I would like to present a brief statement on that.

Mr. RABAUT. Very well.

General CHORPENING. The policy of the Corps of Engineers in administering its water-resource projects during the present emergency is as follows:

Every effort is being made to encourage State and responsible local agencies to actively participate in development and management of project areas, and substantial progress has been made in accomplishing this objective. In many cases, however, such State and local participation is either not immediately forthcoming, or is not effective for 5 to 10 years after the project is placed in operation.

During the present emergency, the facilities which may be provided by the Corps of Engineers for reservoir management are limited to those required for operation and maintenance of the project for its primary purposes.

To a limited extent the facilities, particularly the access roads needed for project operation, may serve the public using the reservoir for recreation. It is understood that a reasonable increase in cost for such facilities is permitted to make these roads useful for both purposes. The cost of such facilities cannot be increased to provide for more adequate utilization through the provision of additional items such as picnic areas, camp grounds, sanitary facilities, and so forth.

Every effort is being made to enlist the assistance of States and responsible local agencies and organizations to develop needed recreational facilities to serve the public visiting project areas.

The access points provided for proper maintenance and operation of the project are in most instances desirable locations for commercial concessions for the using public. To a degree desirable and appropriate, such sites will be developed and maintained by the commercial concessionaires.

Minimum facilities required for safety of the visiting public at a dam or other project structure may be provided if it is impracticable to otherwise control visitors and insure their safety.

Mr. RABAUT. To what extent do you encourage and receive cooperation and contributions from local interests?

General CHORPENING. To the greatest possible extent; priority for lands at our reservoirs and facilities goes first to the States and then the counties and municipalities, and in general we have had very fine cooperation from the States. I know something about the area in Oklahoma, Arkansas, and Texas, and we have had the finest of cooperation there. The State of Oklahoma has spent or will spend in

connection with the Fort Gibson and Dennison Dams a half million dollars in improving the areas which we have leased to the State. They are going to spend money on such items as lodges and cabins, and they are spending a great deal in addition to what they spend on land made available to them. I think it is a fine thing.

In addition to the land that we may be able to lease to the State, the State buys adajcent lands for recreational purposes.

Mr. RABAUT. Where design is changed during construction to raise the height of a dam, what effect would it have on your recreation program?

We are committed at the time we build the dam to the height at which it will remain; it will continue at that height from that time on. If there were any question about it, then we would not permit certain uses of Government land around the normal pool areas or we would perhaps buy the land to meet the higher elevation requirements.

I know of no instance where we have made a decision to build at a different height after the dam is constructed. After all, designing a dam to add on some additional height later would be a pretty difficult proposition.

Mr. RABAUT. We had one such instance where the design, during the course of construction, called for raising the height of one of the dams.

General CHORPENING. Yes.

Mr. RABAUT. There was quite a controversy about the land to be taken because of the new height.

General CHORPENING. That decision was made during construction.

Mr. RABAUT. Yes; it was during construction, one that came up after construction started.

General CHORPENING. Yes.

Mr. RABAUT. To what extent are the formulations of such policy left to the discretion of the local district engineer with regard to the use of the lands, and so on?

General CHORPENING. In order to answer that question, I believe I should give you a brief description of how they operate.

After the dam is placed under construction, the district engineer is required by regulations to prepare what is known as a mangagement plan for that reservoir on completion. The district engineer, in preparing the management plan, consults with the State, counties, towns and other people, to get any ideas that they may have concerning uses that those agencies may want to make of the land around the reservoir.

Having done that, the district engineer then prepares a tentative plan and holds a public hearing, after giving a month's notice, which is widespread advice to everybody who is interested—Senators, Congressmen, local officials. Those hearings that I have held have been attended very well by the local people who are interested.

The district engineer invites anyone who has any recommendations or comments to make to present them at the hearing and a record is made of the hearing. After the public hearing, the district engineer modifies his tentative plan to meet the desires of the local interests, where such modifications can be made and still carry out sound management policies. When the plan has been modified and after further informal checks with the different agencies, if that is found desirable, the district engineer sends the plan to the division engineer and in turn to the Office of the Chief Engineers.

We have in my office people who are particularly qualified to consider such plans. We go over those plans very thoroughly to be sure that our policies are being followed and to be sure that the district engineer is not going too far, and on the other hand, to be sure that he is going far enough to fit into the over-all program.

The plan is then sent back to the district engineer with the comments of my office and is either approved subject to those comments, or further information and studies may be requested. In any event, the plans are sent back to the district engineer.

After the plans are approved, the district engineer is free to go ahead under procedures that are set up in the orders and regulations for leasing concessions; for granting licenses to the States, to towns or to others having use of the land; and other similar matters.

Mr. FORD. When you talk about leasing, General, to the local governmental unit, including States, is that a lease that brings revenue to the Federal Government, or is it a dollar-a-year proposition?

Mr. KINNEY. They are called licenses, and usually they are granted without monetary consideration.

Mr. RABAUT. Without what?

Mr. KINNEY. Without monetary consideration.

Mr. FORD. In the leasing or licensing arrangement, the agency which takes over the operation has certain obligations as to maintenance of structures, and is there a set standard determined by you?

Mr. KINNEY. There is. They assume certain obligations; that is to make use of the land for the benefit of the public. Those uses are usually in connection with governmental functions of the State, the city, or the county, which they normally carry out, and they have those obligations, yes.

Mr. FORD. I assume that they build structures on the land that is a part of the Federally-owned property?

Mr. KINNEY. Yes; they build structures, and in some cases the structures are quite elaborate. They make those improvements with their own money and without cost to the Federal Government.

Mr. FORD. Is the license or lease for an indefinite period?

Mr. KINNEY. There is a time limitation on the license. The instruments have been called licenses, under the language of section 4 of the act of 1946.

Mr. RABAUT. What is the period?

Mr. KINNEY. They vary somewhat, depending upon the circumstances and conditions; they are usually for a period of 25 years.

Mr. FORD. When they build a structure, do they have the right to remove the structure at the end of the licensing period?

Mr. KINNEY. The improvements remain their property.

Mr. FORD. What happens if they fail to maintain the property that they take over; do you have the right to terminate the lease?

Mr. KINNEY. We would have the right to terminate; however, that problem has not arisen as yet; we have not been compelled to make a decision to terminate.

Mr. FORD. Do they have a right to charge a fee for the use of the property that they have constructed?

Mr. KINNEY. Yes, within certain limits. They are undertaking the usual-type recreational and park programs. We provide the land and they use the land for that purpose. They may provide lodges, restaurants, overnight accommodations, and the usual park facilities.

They are permitted in carrying out their operations and to make a charge for the use of such facilities.

Mr. FORD. Suppose a local city government or a county organization got a license to operate a concession at one of these reservoirs, are they permitted to make a profit which goes to them, and not to the Federal Government?

Mr. KINNEY. Well, they have concession operations and in those concession operations they may make a profit, considering that only as one phase of their operations. However, there will be other activities involved, such as picnic areas and camp grounds, which are operated as a service to the public. I do not know of a single instance where they are making a profit considering the over-all operations. They are really performing a service. If they obtain a profit on certain things, such as restaurants and other concession facilities which tend to be self-supporting—those operations contribute something toward the cost of the other operations that are not revenue-producing. On the whole, they do not make a profit, and I do not know of a single instance where they are making any money out of the whole operation.

Mr. FORD. Do you grant licenses to private concessionaires?

Mr. KINNEY. We do.

Mr. FORD. Do they operate on a nonprofit basis?

Mr. KINNEY. No. We have many concessions which we have let directly to private people who use the land area adjacent to the reservoir and provide facilities for which they may collect a charge. A fee is charged the concessionaires which is commensurate with the privilege they obtain through the concession lease.

Mr. FORD. Does that revenue go into the general fund?

Mr. KINNEY. That comes back to the Treasury—a portion of it.

General CHORPENING. Three-fourths of the revenue received from the leasing of the land from the operation of private concessions is returned to the State in which the reservoir is located, to be used for schools and/or roads.

Mr. KINNEY. That is correct.

Mr. FORD. Do the local governmental agencies and private concessionaires compete for the right to operate certain functions at these reservoirs, and if so, who has the priority?

Mr. KINNEY. The priority is to the local governmental agency; it has the priority.

STUDENT OFFICERS

Mr. RABAUT. Will you list for the record the student officers sent to civilian technical schools, out of both the civilian and the military fund?

Differentiating between each function since 1946 and the estimate for 1953.

General CHORPENING. Yes, sir.

(The information requested follows:)

Fiscal year	Enrolled	Fiscal year	Graduated	Funds used	
				Civil	Military
1946	June 1946	1947	June 1947	125	40
1947	June 1947	1948	June 1948	115	28
1948	June 1948	1949	June 1949	64	25
1949	June 1949	1950	June 1950	70	14
1950	June 1950	1951	June 1951	[1] 74	10
1951	September 1951	1952	June 1952	18	2
1952	June 1952	1953	June 1953	50	39

[1] Due to the Korean situation 52 of the student officers enrolled out of civil funds and the 10 enrolled out of military funds were withdrawn leaving only 22 students enrolled out of civil funds in the civilian technical schools for the entire season.

Mr. RABAUT. How many students are presently enrolled under this program?

General CHORPENING. Eighteen during the current fiscal year—that is to civilian schools only with civil works funds.

Mr. RABAUT. Has that increased over what you had last year?

General CHORPENING. I think that it is about the same number that we sent in the previous year. In both of those years it was very much lower than what we normally send, due to the emergency situation under which we had to curtail our program.

Mr. RABAUT. In June 1951, you had 22, did you not?

General CHORPENING. Yes, sir, there were 22 graduated in June of 1951.

Mr. RABAUT. How many did you request of the budget for this year?

General CHORPENING. Seventy-five, sir.

Mr. RABAUT. Last year you asked in the budget for 50 and you were given how many?

General CHORPENING. Eighteen.

Mr. RABAUT. What are the similar figures for the military as of 1952 and 1953?

General CHORPENING. We will furnish those figures for the record.

(The information requested follows:)

In September of 1951, 20 students were enrolled using military funds of which 18 were later paid out of civil funds. For fiscal year 1953 we propose to enroll 39 students out of military funds.

TYPE OF OFFICERS IN PROGRAM

Mr. RABAUT. To what extent are the officers graduates of the Military Academy?

General CHORPENING. I will have to check that for the record. I would say offhand about 80 percent; but I will check the number.

(The information follows:)

Civil school program—Civil works funds

Fiscal year enrolled	Source of commission		Total
	U. S. Military Academy	Civil school	
1946	85	40	125
1947	73	42	115
1948	60	4	64
1949	62	8	70
1950	19	3	22
1952 (September 1951)	17	1	18

Mr. RABAUT. How does this compare with the percentage of Military Academy men in the corps?

General CHORPENING. It will be higher; the percentage of Academy men in the corps will be higher, and I will be glad to check that and give you the exact percentage figures for the record.

Mr. RABAUT. Suppose you furnish a table for the record which will show this information annually since 1946.

General CHORPENING. Yes, sir.

(The information requested follows:)

Corps of Engineers officers, regular list

Date	Source of commission		Total	Percent of total USMA
	USMA	Other		
June 1, 1946	871	233	1,104	78.9
Jan. 1, 1947	847	314	1,161	72.9
Jan. 1, 1948	865	626	1,491	58.0
Jan. 1, 1949	864	652	1,516	57.0
Jan. 1, 1950	876	681	1,557	56.2
Jan. 1, 1951	898	750	1,648	54.5
Jan. 1, 1952	904	854	1,758	51.4

Mr. RABAUT. Generally what is the rank of the officers who are sent to school under this program?

General CHORPENING. Generally they are captain, there are some lieutenants, some captains, and some majors. Due to the fact that during World War II we were not able to send any of the officers there may be a few of higher rank. Since the war we have been able to pick up the backlog to some extent, and consequently those who have gone have had a higher rank than normally would have been the case when sent to civilian schools.

Mr. FORD. When you send these officers to civilian schools they get their regular pay and allowances?

General CHORPENING. Yes, sir.

Mr. FORD. And out of this budget there is only provided funds for tuition?

General CHORPENING. That is correct, and books.

Mr. FORD. And incidental expenses directly connected with their education?

General CHORPENING. Yes, sir.

Mr. FORD. Do they have a choice as to which school they wish to attend?

General CHORPENING. Yes; they are given a list of schools with whom we have arrangements, from which to make their choice, and

also the officers are given the opportunity to indicate whether they wish to take a civil, electrical, or mechanical engineering course. Now, quite obviously, the way it works out, they do not always get the choice to fit in with availability, so not every officer gets what he asks for, but to the greatest possible extent we do let them exercise their preference as to where they prefer to go.

Mr. FORD. When they have completed 1 year, what do they get, a master's degree in engineering?

General CHORPENING. Yes, sir.

Mr. FORD. Do you always have more applicants than you have available scholarships?

General CHORPENING. There are more that should be sent than we have been able to send in recent years. Again it goes back to the backlog from the war, and in the past 2 years the emergency in Korea; we have had to considerably limit what we would like to have sent. In the summer of 1950 we had entered, I think it was 74, in school, and after 3 months we pulled 52 of them out because we had such a great need for young Regulars in connection with the Korean emergency.

Mr. KERR. How many accredited schools in the United States are open to these boys for that special work?

General CHORPENING. I believe we are using about 8 or 10 schools; I can check on that and give you the exact figure for the record.

Mr. KERR. That is very well; just insert it in the record.

(The information requested follows:)

It is anticipated that eight participating schools will be used in fiscal year 1953.

AUDIT PROCEDURE

Mr. RABAUT. Last year the engineer controller took steps to strengthen the audit procedure of the corps. What has been the effect and success of this directive?

General CHORPENING. Mr. Howes, can you answer that?

Mr. HOWES. I am not directly in the Audit Division. However, I know they are actively engaged in carrying forward that plan.

Mr. RABAUT. Suppose you provide a statement for the record on that.

Mr. HOWES. Yes, sir.

(The information requested follows:)

As a result of expanding the internal audit program, approximately 125 auditors have enrolled in commercial accounting courses and are participating in a mandatory on-job-training program. This additional knowledge and training has resulted in a considerable improvement in audit working papers, audit reports, and better audit coverage of the installation. This increase in scope and quality has increased the effectiveness of internal control and closer compliance with Office of the Chief of Engineers policies and procedures.

Mr. RABAUT. What steps have you taken since last year to assure the cost of prosecuting noncivil construction works are not chargeable either directly or indirectly to the civil works program?

General CHORPENING. We will have to supply that information for the record.

(The information requested follows:)

Special and specific attention has been directed thereto, during each visit to field installations by the internal auditors.

DIVISION OFFICE REVISION OF INVENTORIES AND DISTRIBUTION OF SUPPLIES AND MATERIALS

Mr. RABAUT. What steps have you taken since last year to insure that the division offices revise thoroughly their inventories and distribution of supplies and materials?

General CHORPENING. I can answer that something has been done, but I cannot give the exact details, and if Mr. Howes does not know, we will supply that for the record.

Mr. RABAUT. File for the record a table showing exactly how each district has handled the matter.

General CHORPENING. Yes.

(The information requested follows:)

All divisions have provided for inspections of stock-account records and review of stock control procedures by division auditors at least once each year. In most divisions such inspections are being made twice a year. These inspections have been made and appropriate comments included in the division audit reports which have been reviewed by the Audit Division of this Office and appropriate action taken where necessary. In addition to the above, the responsibilities of the district auditor have been revised to provide for a continual review of the district stock-control procedures and the stock records to insure compliance with stock levels prescribed therein.

As a result of the above measures, surplus and obsolete stocks have been reported to the General Services Administration in accordance with Public Law 152, Eighty-first Congress and regulations issued pursuant thereto by the Administrator, General Services Administration. The following is a tabulation, by divisions, of the line items reported to GSA during the calendar year 1951 and the line items released by GSA and disposed of:

Line items of surplus and obsolete stocks

	1951		1950 reported items released in 1951
	Reported	Released by GSA and disposed of	
Great Lakes Division	244	214	
Lower Mississippi Valley Division	97	9	33
Missouri River Division	39	39	4
New England Division			1
North Atlantic Division	6	2	8
North Pacific Division	49	11	20
Ohio River Division	31	26	3
South Atlantic Division	347	106	8
South Pacific Division	46	16	72
Southwestern Division	84	19	29
Upper Mississippi Valley Division	36	4	14

NUMBER AND PRICE OF AUTOMOBILES

Mr. RABAUT. List for the record the number of automobiles purchased for the past 5 years and the estimate for 1953, together with the average price for each year.

(The information requested follows:)

Motor-vehicle procurement, civil works, Corps of engineers

Fiscal year—	Type vehicle							
	Sedans		Ambulances		Station wagons		Busses	
	Number	August procurement	Number	August procurement	Number	August procurement	Number	August procurement
1947	487	$1,247.33	0		31	$1,838.65	3	$4,373.02
1948	216	1,276.33	0		39	1,574.76	2	4,341.33
1949	418	1,304.66	0		58	1,918.26	0	
1950	335	1,245.70	2	$3,222.50	7	1,794.12	2	1,850.00
1951	121	1,281.14	0		10	1,854.43	2	5,931.26
1952 [1]	6	1,400.00	0		0		0	
1952 [2]	115	1,385.06	0		0		0	

[1] Actual.
[2] Estimated.

HOUSING AND SHOP FACILITIES

Mr. RABAUT. Has the Corps of Engineers developed a uniform policy with reference to the construction of housing and maintenance shops at the projects, or is that left to the discretion of the district engineer?

General CHORPENING. I have a statement on that. It is the policy of the Chief of Engineers to provide permanent housing facilities at a civil works project when its location is so remote, or other conditions are such that satisfactory operation of the project cannot be maintained unless housing is furnished, in which case provision is made for only the minimum number of personnel necessary to insure adequate operation and maintenance of the project.

In cases where the construction of housing facilities is considered to be necessary by the district engineer, a specific approval for each project must be obtained from the Chief of Engineers. Where justification is considered sufficient to warrant the provision of the housing requested, the facility must satisfy criteria governing space limitation and costs. These restrictions provide that the size of three-bedroom units will not exceed 1,080 net square feet, and that the average cost per unit will not exceed $16,500, based on price index of June 1950. Duplex or multiple units of the same size will not exceed an average cost of $14,500 on the same basis.

The type of housing provided varies with the climatic conditions and with the general type of private housing constructed in the area. It is intended that the houses be no better in quality and accommodations than the average that would be obtained by the employees if they were to be housed at their own expense and by their initiative.

It is the policy of the Corps of Engineers to provide only sufficient office space, garage, storage, and shop facilities considered necessary for project administration and for proper maintenance and repair of the project facilities and equipment. It is intended that the construction for office and service buildings be serviceable and durable with a minimum of expenditure for ornamental purposes. In deter-

mining the extent of the shop facilities to be provided at any given project, several factors are considered, such as: The work to be done at the dam and reservoir; the availability of services, supplies and rental equipment; the remoteness of the project from commercial repair shops; and whether it will be more satisfactory to perform repairs by personnel assigned to the project or by traveling crew operating from a major repair yard.

In cases where the district has several related projects in the same general area, such as navigation locks and dams, it is customary to provide one large shop for major repair.

Mr. RABAUT. How much discretion does the district engineer have regarding the type of housing and maintenance shop?

General CHORPENING. He has discretion up to the point that he makes the designs, but those designs must go to the division engineer and the Chief of Engineer's office for approval, or at least for general approval. The details of design would be worked out in the district office.

Mr. RABAUT. How do you account for the fact that the maintenance shed at the Kanopolis shops are not as adequate as those for the Tulsa district?

General CHORPENING. I have seen the maintenance shop at Fall River in the Tulsa district. I have not seen the one at Kanopolis, and I cannot speak from personal inspection of that.

Possibly we do not always, in the exercise of our best judgment, provide the size that we should have based on actual requirements.

Mr. RABAUT. Usually business organizations have more or less a plan for certain types of uniform facilities to fit into the respective size of the project in a given area.

The idea is that there must be a saving in structures of that kind, or in plans of that kind, or it would not be the practice. So we are just wondering why you could not apply the same yardstick to the operations of the engineers. Of course there are some places where you will need a greater shop than others, but there should be some general over-all plan.

What policy was developed for the district at Tulsa while you were there?

General CHORPENING. While I was in Tulsa and later we gave a lot of thought to the possible economies of concentrating maintenance facilities at one project to service several projects. I believe that something has been done along that line in western Oklahoma, where we have three projects, one of which is the Canton Dam. In other words, instead of having all the necessary equipment at each project, the plan is to spread it out from the Canton Dam to service each of the three.

Obviously, if we could see ahead far enough into the future and know the time when the projects are finally going to be built, we would save some funds in the construction of shop facilities. We do not know whether it is going to be 5, 10, 15, or 20 years before we will have additional projects in the area. If we could do so, we could economize on shop facilities for groups of projects in some areas. The only thing we can do is try to have adequate shop facilities.

Mr. RABAUT. There must be something that could be done to provide uniform and adequate maintenance facilities. That is the reason for bringing it to your attention.

General CHORPENING. I am very happy to have the suggestion. May I say something off the record?

Mr. RABAUT. Certainly.

(Off-record discussion.)

CORPS OF ENGINEERS

PERSONNEL REQUIREMENTS

Mr. RABAUT. We will take up now the personnel requirements. Do you have a statement you would like to make?

General CHORPENING. Mr. Chairman, and members of the committee, the personnel requirements of the Corps of Engineers for the fiscal year 1953 provide for 35,522 positions, or 33,080 man-years of employment at a cost of $142,233,142. The distribution of positions, man-years and 01 amount by appropriation is as follows:

I would like to have this table included in the record.

(The table referred to follows:)

Appropriation title	Positions	Man-years	01 amount
Maintenance and improvement of existing river and harbor works	19,692	18,095	$77,668,350
Flood control:			
General	10,167	9,544	42,479,000
General, emergencies	629	604	2,553,000
Mississippi River and Tributaries	4,698	4,517	18,177,000
Tributaries of Mississippi River, emergencies	48	46	165,000
Sacramento River, California	77	73	280,000
Niagara redevelopment and remedial works investigation, Corps of Engineers	58	56	273,000
Hydraulic mining in California, debris fund	3	2	8,200
Maintenance and operation of dams and other improvements of navigable waters	40	37	145,000
Funds contributed for flood control, rivers and harbors	56	54	245,992
Funds contributed for improvement of rivers and harbors	1	1	4,000
Working fund, Army, engineers, civil (trust fund)	53	51	234,600
Total	35,522	33,080	142,233,142

COMPARISON OF PERSONNEL REQUIREMENTS, 1951–1953

General CHORPENING. The attached exhibit A shows a comparison of the personnel requirements by appropriation for the fiscal years 1951, 1952, and 1953.

And I would like to have that made a part of the record.

Mr. RABAUT. Without objection, the table will be included.

(The table referred to follows:)

EXHIBIT A.—*Comparison of civilian personnel requirements, civil functions, Corps of Engineers, fiscal year 1953*

DEFINITE ANNUAL APPROPRIATIONS

Appropriation	Fiscal year 1951				Fiscal year 1952				Fiscal year 1953			
	Permanent positions	Full-time equivalent positions	Total man-years	Total 01 amount	Permanent positions	Full-time equivalent positions	Total man-years	Total 01 amount	Permanent positions	Full-time equivalent positions	Total man-years	Total 01 amount
Maintenance and improvement of existing river and harbor works	17,402	1,029	16,165	64,736,508	17,939	1,103	17,224	73,620,468	18,601	1,091	18,095	77,668,350
Flood control:												
General	10,630	642	10,760	42,602,326	10,723	637	10,876	47,307,500	9,535	632	9,544	42,479,000
General emergencies	310	72	367	1,458,601	947	153	1,055	4,446,000	522	107	604	2,553,000
Mississippi River and tributaries	3,937	880	4,631	17,344,788	3,897	904	4,616	18,321,500	3,814	884	4,517	18,177,000
Tributaries of Mississippi River emergencies	17	8	24	80,608	65	32	91	320,000	32	16	46	165,000
Sacramento River, Calif	98	5	100	371,592	88	5	90	341,000	72	5	73	280,000
Niagara redevelopment, Corps of Engineers	50	.....	48	206,446	33	.....	30	139,700	58	.....	56	273,000
Subtotal, deficiency annual appropriation	(32,444)	(2,636)	(32,095)	(126,800,869)	(33,692)	(2,834)	(33,982)	(144,496,168)	(32,634)	(2,735)	(32,935)	(141,595,350)
OTHER AVAILABLE FUNDS												
Hydraulic mining in California	3	.....	2	7,942	3	.....	2	8,000	3	.....	2	8,200
Maintenance and operation of dams and other improvement of navigable waters	40	.....	38	144,666	40	.....	38	146,000	40	.....	37	145,000
Working fund, Army, engineers, civil	221	.....	212	1,021,181	135	.....	130	670,103	.....	.....	.....	.....
Funds contributed for flood control, rivers and harbors	25	.....	24	106,782	58	.....	56	258,937	56	.....	54	445,902
Funds contributed for improving rivers and harbors	22	.....	21	86,122	39	.....	38	196,703	1	.....	1	4,000
WFAE civil (trust fund)	13	.....	13	51,243	55	.....	53	239,273	53	.....	51	234,600
Subtotal, other available funds	(324)	.....	(310)	(1,417,936)	(330)	.....	(317)	(1,519,016)	(153)	.....	(145)	(637,792)
Total, all funds	(32,768)	(2,636)	(32,405)	(128,218,805)	(34,022)	(2,834)	(34,299)	(146,015,184)	(32,787)	(2,735)	(33,080)	(144,233,142)

General Statement

General Chorpening. The fiscal year 1953 estimate shows a decrease of 1,334 positions, 1,219 man-years, and $3,782,042 from the fiscal year 1952 estimate.

These reductions are due to anticipated increase in contract work; reduction in planning and survey work; and increased emphasis on more efficient management practices.

A number of employees have been transferred from civil payrolls to permit acceleration of the military programs—that is the military construction program that is under way on a large scale. This has been made possible through continuous studies of manpower utilization as related to workloads through on-the-site surveys and positive workload analyses. These workload analyses provide each commanding officer at every level with a tool with which to equitably distribute the manpower resources available.

Manpower utilization surveys of all field elements by teams of departmental management personnel are being performed annually. The teams are augmented by field personnel from offices other than those being surveyed in order to increase the experience of field employees concerned with devising and applying means of improving manpower effectiveness. · On-the-site surveys plus continuous review and anslysis of the monthly workload report gives the Chief of Engineers and all subordinate commands positive control over the distribution and utilization of available personnel.

DEPARTMENTAL PERSONNEL

The tables presented herein include personnel requirements for departmental services in the Office of the Chief of Engineers. For fiscal year 1953, the estimate provides for 304 man-years of employment amounting to $1,790,000, an increase of 18 man-years over fiscal year 1952.

The increase over fiscal year 1952 is essential for the adequate performance of the assigned mission of the Chief of Engineers. It will enable this office to achieve sounder engineering planning and greater economies of operation by placing increased emphasis on the following functions:

Application of management engineering practices to the administration of the civil-works activities to assure the maximum efficiency and economy of operation.

More effective staff supervision of planning and survey reports to assure that the work is confined to those items which can be related to both immediate and long-range national defense requirements.

Supervision of preparation and use of performance budgets at all echelons.

Closer supervision of the scheduling of work to insure carrying out the most effective program with the funds available.

Consulting services to the field offices in the preparation of survey reports and definite project reports during the formative stages of their preparation, and in the solution of complex problems involved in the design and construction of hydraulic structures.

The supervision of plant replacement and inventories of stocks and surplus equipment in order to reduce and more adequately control these items.

Supervision of the allocation of materials under the controlled materials plan. This program is required by law, and is an additional workload on civil activities. And it is a very considerable workload, I might add.

The compilation and preparation of supplemental information concerning the civil budget activities. This work has increased as a result of increasing complexity, changing conditions, and the additional detailed data required with regard to individual projects and the program as a whole.

CIVILIAN EMPLOYMENT

Mr. RABAUT. What is your present civilian employment, broken down as between overseas, departmental, and the Zone of the Interior?

Mr. HOWES. The over-all strength as of December 31 was 29,100; of that number 55 were overseas.

The overseas employees were located as follows: 11 in Alaska; 6 in the Caribbean; and 38 in Honolulu.

Mr. RABAUT. What is the military employment for the same areas?

Mr. HOWES. One hundred and seven.

Mr. RABAUT. Suppose you break that down for the record.

General CHORPENING. Between those in the United States and the overseas area.

Mr. RABAUT. Yes.

(The information requested follows:)

Strength distribution as of Dec. 31, 1951—Corps of Engineers, civilian and military personnel

	Departmental	Field	Overseas	Total
Actual strength, Dec. 31, 1951:				
Officer personnel	12	95		107
Civilian personnel	305	28,740	55	29,100
Total	317	28,835	55	29,207

Mr. RABAUT. List for the record the personnel, differentiated between the military and civilian, and their average salaries for the past 5 years, and the estimate for 1953.

General CHORPENING. We will supply that for the record.

(The information requested follows:)

Corps of Engineers—Civil Functions

Fiscal year	Civilian		Military	
	Number of permanent positions	Average salary	Number	Average salary
1948	37,244	$3,509	(1)	(1)
1949	40,219	3,612	(1)	(1)
1950	37,136	3,800	200	$7,544
1951	33,631	3,854	200	7,525
1952	34,357	4,189	200	7,535
1953	32,752	4,260	200	7,535

[1] Information not available.

SALARY INCREASES

Mr. RABAUT. What is the basis for the $265,000 increase in salaries for the Office of Chief of Engineers?

Mr. HOWES. I do not quite understand the figure of $265,000. Our figure, I believe, shows $125,000. Does that include $140,000 for the pay raise this year?

Of the $265,000, $140,000 is applied to the cost of the recent pay raise for the fiscal year 1952. The balance of the increase is made up of the pay of 18 new positions we are asking for here, and the cost of the within-grade promotions and grade changes in the Office of Chief of Engineers.

Mr. RABAUT. Are those new positions?

General CHORPENING. Those are new positions, and we can give you in detail, if you want it for the record, what it represents. I can give you a rather general statement now.

Mr. RABAUT. Give us the grades and the average salaries.

General CHORPENING. These positions are needed, not in just one place, but in my Engineering Division, in my Planning and Development Division, and in my Operating Division.

In the control of materials, which I just mentioned, that is in the Operating Division. It takes a lot of work to prepare the material and fight through the various places where you must go to insure that the proper amount of materials are requested and allocated to the job.

In the Planning and Development Division we need more people in connection with the budget activities. These employees have a terriffic load and need assistance.

Likewise in the Engineering, I have never felt we had a sufficient number of people to do the job of staff supervision at this level.

Mr. KERR. In other words, under the law you have got certain work to do and you feel that you need more help to do it; is that correct?

General CHORPENING. That is about it; yes sir.

FLUCTUATION IN CIVIL AND MILITARY PROGRAMS

Mr. RABAUT. To what extent has civil function personnel decreased and military function increased since the present emergency?

General CHORPENING. Moneywise the amount of money available for civil works has remained about the same. There are less projects now than we had before, but the projects that we are now pursuing are generally larger in magnitude. On the military construction load, I do not have the figures here, but I can secure them.

(The following was submitted later:)

Military workload

	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952
Engineer service, Army	$301,678,867	$1,538,154,500	$1,166,049,000
Military construction, Army	117,177,044	499,970,585	1,048,363,700
Air Force construction	78,976,100	1,174,078,279	1,640,306,425
Total	497,832,011	3,212,203,364	3,854,719,125

Mr. RABAUT. Have your civil function personnel decreased?

General CHORPENING. Yes, sir.

Mr. RABAUT. How much is that decrease?

General CHORPENING. It will be noted from the statement I just gave, that for the fiscal year 1953, we show a decrease of 1,334 positions from what we have had in fiscal 1952.

In June 1950 our total strength in civil functions was 35,580. In December 1951, our total strength was 29,100, which would indicate approximately 6,480 less than we had just prior to the present emergency.

Mr. RABAUT. Have military functions increased since the present emergency?

General CHORPENING. The military construction program of the Corps of Engineers has increased tremendously since June of 1950. And as I stated, I will be glad to furnish for the record the magnitude of that in dollars, not only in this country, but overseas. The Corps of Engineers now has a most sizable program.

Mr. KERR. How about the work up in Alaska?

General CHORPENING. Yes; we have a large military construction program in Alaska.

DISTRICTS ON MILITARY WORK

Mr. RABAUT. Last year General Pick testified as follows:

> With increased emphasis on military construction work we are currently utilizing 9 additional districts, plus the original 17 for military work, and I am going to increase the number of districts on military work very shortly. The ability of the Corps of Engineers to handle this sudden load in its stride is positive proof of the wisdom of assigning the responsibility to the corps.

What I want to know is this: Does this increase the cost to the United States in taking over these new districts? Does that mean we have more Army personnel in the establishment of these new districts, or are you taking some of the personnel from the other districts and bringing them into the new districts?

General CHORPENING. Generally here in the United States the military workload is taken on by our going districts.

Mr. RABAUT. How many?

General CHORPENING. All of them but four have been performing military services. That would mean that 39 out of 43 civil-works districts have some military functions. It is not only construction, Mr. Rabaut, but also military supply. We have a very sizable supply program in the Corps of Engineers and likewise we use the districts for that purpose.

Now, in addition to that, in the United States, we have two purely military construction districts that have been established since the emergency began, and we have one division which does nothing but military construction, that was established about 3 months ago, and under that division comes the off-continent military construction responsibility.

CHANGE IN WORKLOAD

Mr. RABAUT. To what extent would you say the workload has been changed by the shift in emphasis from civilian to military construction?

General CHORPENING. Our workload has been changed in this regard, that with the lesser number of new starts last year, and the relatively few that are included in this year's budget, there is not

required as much design and planning activities as we have had, and with not as many new projects getting underway, obviously that impact is felt through not only the administrative requirements, but also all through the inspection and other requirements in the field.

Dollarwise our program has not changed very much since the emergency began, but is concentrated on fewer projects.

SAVINGS THROUGH CHANGES IN LEAVE REGULATIONS

Mr. RABAUT. What savings have you been able to achieve through the recent change in leave regulations?

Mr. HOWES. I can supply that information for the record.

Mr. RABAUT. Just insert it in the record.

(The information requested follows:)

STATEMENT OF SAVINGS DUE TO CHANGES IN LEAVE REGULATIONS

The estimated dollar saving in leave during fiscal year 1952 under section 203, Public Law 233, Eighty-second Congress, is $986,948. This does not represent an over-all dollar savings in the budget. However, it represents the additional dollar value of work which the Government will obtain from those employees on the rolls whose leave will be reduced by the regulations and thereby work a greater number of days in the year for the same salary payment.

EFFECT OF LIMITATION ON INFORMATION AND EDUCATIONAL ACTIVITIES

Mr. RABAUT. What was the effect of section 105 of the last year's act on your operations? Did it result in savings or reduction in personnel in your information and educational activities?

Mr. HOWES. We have received reports from the field on the information and educational activities and we are in process now of effecting the cut-back as called for under the law. I believe the reports show a 25-percent reduction.

Mr. RABAUT. I wanted to know what the effect has been and what savings you have made.

General CHORPENING. The Corps of Engineers has never had more than a very few people who would come under the description of that act on its payroll. The effect is going to be, I am quite certain, to reduce the very limited number we have and we are going to be less able to put out proper information to Government officials and to the public on things that they should know about.

Mr. RABAUT. In what way do you feel there would be any harm done?

General CHORPENING. We receive throughout our offices and in my office also, continual requests from officials and individuals for information, articles, descriptive letters about projects and information that should be made available. And restricting the very limited activities which the corps has ever done is going to result in many cases of not being able to give such information to the public.

Mr. RABAUT. Has it caused any reduction in your personnel?

General CHORPENING. I do not know; I will have to check on that.

Mr. RABAUT. Suppose you put a statement in the record supplying that information.

(The information requested follows:)

The Chief of Engineers has directed that section 105 of last year's act be implemented throughout the field. These reports show that in fiscal year 1951 information personnel totaled 30.2 for 54 offices; clerical assistance totaled 20.8 for these 54 stations.

Information personnel in nearly all of our offices perform information duties, in addition to other primary duties such as executive officer, administrative assistant, labor relations officer. In no division or district office is there more than one information officer, and in no case does that information officer give full-time service to strictly civil works information. Therefore, reducing a part of a part-time person's services by 25 percent is requiring some fine fractional studies by our district and division offices. It is being done.

However, it is not believed that section 105 can effect a genuine savings in the dollar sense, unless there should occur an unlikely comparable reduction in the number of inquiries and requests for information received from the public, public officials, civic organizations, State officials, and from the offices of the Members of Congress. It is considered an obligation to supply all requested information promptly and fully, whether the request comes from a school child or from the Capitol.

If the necessary time and services of an information officer are not available, then the less efficient and probably more expensive method of distributing these inquiries throughout the various departments of the office must be resorted to. This interrupts the normal work and functions of those departments, while the answer or part of the answer is obtained and the inquirer passed along to still another department perhaps for another portion of the inquiry.

The Corps of Engineers, by organizational policy and by individual choice, does not engage in press agent or promotional-type publicity. It originates only such publicity items as deal with directives for projects—which are advantageous in securing the attention and interest of contractors; notices of the award of contracts—of assistance and interest in recruiting construction employment—and such other factual items as will assist in the execution of the prescribed functions. Better than 90 percent of such time as is devoted to information work in any of our offices consists of answering inquiries and preparing material on corps activities requested by the public or public officials. Curtailing that kind of service to the public would not be in the best interest of good government. Yet the result of the reduction under discussion will be just that, because the extra burden must be distributed to other departments, already fully occupied under personnel limitations.

Mr. RABAUT. I still want to know if it has resulted in any savings, and also if it has resulted in a reduction of personnel, and you can enlarge upon any damage that it may have done, if you like.

General CHORPENING. Very well.

Mr. KERR. What is the nature of the information that you refer to?

General CHORPENING. For instance, last year, during the large flood, people would come in and want information as to what happened, and they wanted detailed information. If we do not have some properly trained, educated people, to do that, we are not performing our function as a public agency. We are continually being called on at our office and in the field offices by the press which wants stories about certain things that are happening, and many times things are happening in which the public is interested, and we should have people to supply that information in a proper manner. We need people who understand press relations to handle those things, and also people with some technical background who can take the facts and present them properly.

In an engineering organization of this kind we are continually being requested to prepare articles, technical articles, semitechnical, or maybe articles of a general interest, and someone, somebody has to correlate that and see that it is done in a proper fashion.

Mr. KERR. How long has such information been made available; how long have you been giving out that kind of information?

General CHORPENING. To a greater or less extent for many, many years. But as the scope of our responsibility has increased and the scope of our program has increased, naturally we have had to provide more people to handle the requests that we receive.

Mr. KERR. You do not have any trouble in getting together this information?

General CHORPENING. We have not had too much difficulty. The difficulty is to get the proper type of personnel. We can get the people, but getting the proper type of personnel is the difficulty.

INCREASE IN CONTRACT WORK

Mr. FORD. General Chorpening, in your prepared statement with reference to personnel there is this quotation:

> The fiscal year 1953 estimate shows a decrease of 1,334 positions, 1,219 man years, and $3,782,042 from the fiscal year 1952 estimate.
>
> These reductions are due to anticipated increase in contract work; reduction in planning and survey work and increased emphasis on more efficient management practices.

In reality, by increasing your contract work, do you really reduce the total expenditures so far as the Government is concerned?

General CHORPENING. That is a debatable question, depending upon the type of work we actually contract out. It does reduce the number of positions on the Government payroll, obviously, by contracting the work out rather than by doing the work with hired labor.

Mr. FORD. But that does not necessarily mean a reduced appropriation for the job?

General CHORPENING. No; it may increase it, in some instances.

Mr. FORD. So actually, although you may reduce the number of Federal employees in the Department, there is not necessarily a comparable over-all saving.

General CHORPENING. That is correct.

Mr. FORD. And I understand you are to furnish for the record the average salaries to be paid the 18 men you are requesting?

General CHORPENING. Yes.

Mr. FORD. Would it be too much of a burden to ask to have some description of the job included in the record?

General CHORPENING. We can do that.

Mr. FORD. I think that would be helpful.

(The information requested follows:)

DESCRIPTION OF POSITIONS FOR WHICH FUNDS WERE REQUESTED IN FISCAL YEAR 1953

GS–14—For Project Planning Branch of the Engineering Division. To provide expert engineering advisory service to division and district offices of the Corps of Engineers, with regards to the over-all investigations, planning, and design and cost of proposed river and harbor, flood control, and multiple-purpose projects. Direction of the program for preparedness of engineering manual for civil works and the program for the preparation of the guide specification and for the review in the field of the reasonable contract estimates and hired labor estimated which are used as a basis of awards of construction contracts as well as the review of estimates of cost of navigation, flood control, hydroelectric and other structures.

GS–14—In the Project Development Branch of the Planning and Development Division. Supervision of civil works survey and reports program up to and including congressional authorizations and for the supervision of work in connection with authorizing legislation for civil works; insures uniformity of policy and procedures, especially in regard to economical analysis; in division of cost between Federal and local interest and development of criteria to be followed by division and district engineers; coordination of reports of the Corps of Engineers is required by law and administration procedures among the Federal and State agencies with reports of other agencies and to act as a member of the working staff of the Federal international agency, river basin, subcommittee on cost and benefits.

GS–13—In the Electrical and Mechanical Branch of the Engineering Division. Project consultant and advisory service to division and district engineers regarding operation and maintenance of hydroelectric plants; advises division and district engineers in the establishment of operating program for hydroelectric power plant, training stations and supervisory personnel, maintains liaison with other Government agencies and public utility companies to assure the most advanced procedures are utilized in maintenance of hydroelectric projects.

GS–13—Maintenance and Operation Branch of the Operating Division Responsible for matters concerning with the acquisition of maintenance and repair storage, loans, transfers and disposal of floating plants, land, plant repair, shops and boat-yard facilities of the Corps of Engineers; consults with Merchant Marine Inspection Division of the United States Coast Guard and with the Safety Division of the Corps of Engineers on matters relating to safety appliances and procedures for Corps of Engineers floating plants and advises the field offices as required.

GS–13—In the Structural Branch of Engineering Division. Reviews plans and specifications; analyses of design of flood control, multiple-purpose dams and reservoirs, miscellaneous structures for engineering sufficiency; a technical review to determine adequate and conformity requirements; reviews basic design criteria to determine engineering conformity submitted by division and district offices for review; makes recommendations where justified and alteration appear necessary to conform to departmental standards and procedures.

GS–13—In the Executive Office to serve as a special assistant; to be a member of the International Joint Commission; advisory board and serve as a special assistant to such as International Engineering Board, International Waterton-Valley Engineering Board, the International Missouri-Souris Board; serves as consultant in the engineering economical purpose of the river and harbor and flood control multiple-purpose projects.

GS–13—Concrete Branch, Engineering Division. Assistant Chief of Branch with responsibility for furnishing consultation and advice to field offices of the Corps of Engineers to problems, construction material, general planning of construction plants and concrete construction projects; completion of detailed review for technical adequacy, maintains complete data on reviews, and selects all of concrete adequacies for all civil works projects; and makes such data available to all personnel having bona fide interest in the program; coordination and review for technical agency the results of the annual concrete review program.

GS–13—In the Policy and Continuity Branch, Planning and Development Division. Is responsible for the preparation and issuance of policies; for review of development projects reports for conformance to established policy and authorized acts and allocation of costs and annual charges of multiple-purpose projects to the various functions; the study of proposals submitted by field installations and records of charges to be taken from the current policy and authorized and assure and current or future civil activities; analysis and recommends action to be taken on individual projects problems and proposal involving relation of towns, utilities, and facilities; responsibility or authority of the Corps of Engineers in bridge alteration in connection with local protection projects; problems and proposals regarding modification or estimating projects to provide additional collateral request by local interest and the extent local interest should contribute toward such collateral benefits

GS–12—Construction Branch, Operations Division. Reviews and recommends appropriate action on annual cost estimates prepared by district engineer for individual projects; reviews and recommends action on such projects which constitute general authority for expenditures for funds appropriated. This review includes verification of funds available, comparison of proposed operations with annual cost estimated and justifications submitted to the Congress as a basis for appropriating general reasonable of overhead and Government cost; prepares replies to variety of inquiries from Members of Congress, State, and local agencies, and private interest, relative to local flood protection projects; reviews data relating to contractor's claim as to the adequacy of Government estimates.

GS–12—Hydrology and Hydraulics Branch, Engineering Division. Reviews project plans and reports from district offices on the subject of hydrology and study, analysis of field data to insure its sufficient capacity in reservoir and spillway of project dams to control and protect against floods to be expected on the basis of estimating records compared with cost and economical benefits of the projects, develops integral and technical parts of engineering manual for civil works through research and study of the best available data.

GS–12—Hydro Power Branch of the Engineering Division. Responsible for the examination and review of flood control and navigation projects with particular attention to the development of hydroelectric power as one of the maintenance projects; this review covers survey and design reports in connection with the allocation with the total cost of power features and comparison of the cost of hydro power with other sources of power in the area; reviews application for permits and licenses covering hydroelectric power project submitted by the Federal Power Commission under section 4E of the Federal Power Act; participate in consultation with division and district engineers and other Federal agencies concerning problems relating to the hydro aspects of projects under investigation.

GS–12—In the project development Branch of the Planning and Development Division. Responsible for staff supervisory of all phases of the survey program on proposed public works from the initial authorizations up to date, including the authorizations by Congress for a designated area of the country; furnished staff assistance to the field offices in an advisory capacity through policy design and other analyses of the survey program; adviser to Public Works Committee of Congress and formulation of plans for investigations of Federal work project; general responsibility for all phases in connection with those studies.

GS–11—In Special Projects Branch of the Planning and Development Branch. Is responsible for preparing replies to inquiries which concern the planning and development phases of flood control and river and harbor activities received from congressional sources from municipals, State and other Federal agencies bring groups and individual analyses interstate water studies and evaluates data on annual flood damages prevented by completed projects and annual savings to commerce as a result of completed river and harbor works.

GS–11—Project Planning Branch of the Engineering Division. Reviews cost estimates for river and harbor, flood control and multiple-purpose projects for adequacy conforms to acceptable engineering and completion of assigned work; reviews surveys reports for determination of the adequacy of engineering and design of cost estimates to eliminate modification in the future; responsible for the determination of the bidder protests of Government estimates in the case of bid rejection; responsible in obtaining and evaluating on data up to the preparation of the Government estimate in connection of the bidder; reviews construction contracts for acceptability as to price and recommends action thereon with written justification.

GS–12—Construction Branch of the Operations Division. Performs claimant responsibi ities of the Chief of Engineers for the civil works construction activities to the claimants involved (the Secretary of the Army for River and Harbor, flood control, and the Secretary of the Interior for power projects). These responsibilities consist of the following principal activities: (*a*) Statement of and defense of requirements, (*b*) apportionment of allotments of critical materials, (*c*) expediting assistance. In carrying out these functions, the occupant personally appears before the following boards of DPA for those projects for which the Secretary of the Army is claimant, and furnishes information to the Department of the Interior for the projects for which they are claimed: (*a*) Requirements staff, (*b*) Program Adjustment Committee, (*c*) Requirements Committee. The occupant also serves on special boards such as Lumber Requirements Committee and Construction Equipment Committee.

(2) GS–12—Project Programs Branch, Planning and Development Division. Construction management engineer responsible for the formulition of the current and long-range programs for an area of the country which includes the budgeting of funds for all phases of flood-control activities. These programs cover preliminary emergencies surveys, project construction and planning and operation and maintenance of structures. Formulates instructions to district and division engineers regarding preparation of work programs and fund requirements for the current fiscal year and for a 6-year period in advance. Makes complete analysis, evaluation, and development of the annual flood-control program for the designated area. These analyses and evaluations are from an over-all standpoint concerning costs, priority of work, conformance to legislative authority, policies, and regulations established by the President, Bureau of the Budget, and other higher authority. In addition, administers and controls allotments under emergency

authorities such as emergency repairs, snagging and clearing, bank protection and construction of small flood-control projects for the designated area.

GS–9.—Fiscal accountant in the Budget and Fiscal Accounting Division, Office of the Engineer Comptroller. The incumbent of this position will assist in the preparation of civil functions budget estimates, apportionment schedules and statistical reports; the maintenance of records and accounts of civil funds, and rendering accounts current and carrying out the disbursing functions which were formerly performed by the General Accounting Office and the Treasury Department.

LIMITATION ON SALARIES OF CIVILIAN PERSONNEL IN OFFICE OF CHIEF OF ENGINEERS

General CHORPENING. Could I add one other word in connection with personnel, Mr. Chairman?

Mr. RABAUT. Certainly.

General CHORPENING. I have a copy of a letter here, which I am authorized to read into the record today, from the Executive Office of the President, Bureau of the Budget, Washington, D. C., dated February 5, 1952, addressed to the Secretary of the Army, which reads:

MY DEAR MR. SECRETARY: Receipt is acknowledged of your letter dated January 31, 1952, relative to the limitation on salaries of civilian personnel in the Office of the Chief of Engineers contained in the 1953 budget. You request that this limitation be removed by deletion from the Civil Functions Appropriation Act of language pertinent thereto and propose that the Chief of Engineers and his representatives be permitted to substantiate this omission in their testimony before the Appropriations Committee. You point out the increasing workload imposed on staff facilities of the Office of the Chief of Engineers and the need for flexibility as justification for this request.

In view of the reasons outlined in your letter there would appear to be no objection to removal of the limitation. Accordingly, it would seem appropriate for the Corps of Engineers to present the matter to the Congress, and I am sending a copy of this letter to the chairman of the Committee on Appropriations of the House of Representatives for his information.

Sincerely yours,

F. J. LAWTON, *Director.*

Mr. RABAUT. This is not a budget estimate.

General CHORPENING. The letter?

Mr. RABAUT. This is just a letter, not a budget estimate.

General CHORPENING. Yes, sir. It is just a letter suggesting, or authorizing us to discuss the matter with the committee.

Mr. RABAUT. It is just one man's opinion.

General CHORPENING. It is the view of the Bureau of the Budget.

RENTAL RATES

Mr. RABAUT. General, what is the present basis for the rental rates?

General CHORPENING. The present basis for the rental rates is our regulation that was published by the Personnel Division of the Secretary of the Army's Office in 1948.

Mr. RABAUT. The 1948 regulation is accountable for the present rates?

General CHORPENING. Yes, sir.

Mr. RABAUT. Have you received or do you anticipate receiving a new order on this matter?

General CHORPENING. We have not received a new order at this time. We anticipate that new rates will be promulgated and go into effect on or about July 1, 1952.

Mr. RABAUT. In view of the recognition of the situation as to the lowness of the rates, why would they place the application on the rates at a date so far removed?

General CHORPENING. The basis on which new rates are to be established will be on the present appraised rental value of the quarters as against other similar accommodations in that vicinity and appraisals will have to be made as of this time of all quarters under the jurisdiction of the Army at not only civil works installations, but military posts, et cetera.

Mr. RABAUT. I understand the new policy will call for a new base, based on an appraisal of comparative rents in the area. To what extent do you think this will amortize the Government's cost of the housing at a reasonable rate of interest?

General CHORPENING. I would think that, in general, it should amortize the facilities on about the same basis as would be the case if they were rental properties in private ownership. Many of the houses or quarters now in existence were built many, many years ago at a lesser cost than they will now be appraised.

Mr. RABAUT. What maintenance responsibilities will the corps have under the new policy?

General CHORPENING. The Corps of Engineers, of course, must maintain, and does maintain those quarters that were built with Civil Works funds at our Civil Works installations. On the military side the Corps of Engineers' budget for repairs and utility funds is actually expended and administered by the Army or commanding officers of class 2 installations.

Mr. RABAUT. List for the record a table showing the amounts received from rentals for the past 5 years together with the number of units involved. This would include the estimated information for 1953.

General CHORPENING. Yes. Of course, that is only on Civil Works.

Mr. RABAUT. Yes.

NOTE.—The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings, part 2.

Mr. KERR. There is a difference in the cost of rental between the 1947 rental and the 1952.

General CHORPENING. There will be a considerable difference between the rents that we will come up with now and the rents that have been charged. They have been too low. There is no doubt about that.

Mr. KERR. That is a natural sequence involved in all sorts of business. What is the difference in rate in the cost of these houses, in rentals, prior to 1952 and in 1953? Would you say the rentals were 10 percent higher or 15 percent higher?

General CHORPENING. At this time it would be a guess as to what they might be, since they will be based on an appraised value, but, roughly, I would say that the rentals that will be charged as against what the rentals now being charged would be at least 50 percent, and probably more than that, higher.

Mr. KERR. Of course, the cost is greater in 1952 than in 1947.

General CHORPENING. In many cases the way this is proposed to be done, the Government will actually benefit because we have big houses that we built a long while ago that have enhanced in value,

several times over, and we will charge rentals based on what we consider the present value to be.

Mr. FORD. General, I think it would be helpful for the record to include a chart something like this. I would appreciate any suggestions that you or your staff might make in order to present this problem as vividly as possible.

I have in my hand a rough draft of what I would consider a start on a good chart to present this problem.

The first column—type of residence. In other words, the accommodations—one bedroom, two bedroom, three bedroom, et cetera.

The next column—the present rental under the existing directive.

The next column—the salary of the occupant of that residence as of January 1, 1951—the next column—the salary of the occupant of that residence as of January 1, 1952.

The next column—the cost of construction of that project or residence.

The next column—the present value of that residence.

Do you have any other suggestions that might be helpful in preparing a chart which would be included in the record?

General CHORPENING. Could we discuss this off the record?

Mr. FORD. Surely.

Mr. RABAUT. Shouldn't you have the year the house was constructed.?

Mr. FORD. Yes.

(Discussion off the record.)

Mr. FORD. In light of all the other questions we have had here before and if this chart is prepared completely and adequately, it will probably answer most of the questions I had to supplement what was included in the record of a year ago.

PRESENT RENTAL REGULATION

Last year, on page 682 of the hearings, Mr. LaCroix inserted a copy of sections of Public Law 93 of the Seventieth Congress. Is that the law under which rentals are now determined?

General CHORPENING. The regulation which is applicable to the Corps of Engineers on establishing rates for quarters is CPR–P16 That is Civilian Personnel Regulation P16.

Mr. FORD. I think earlier today you testified that existing rates now were set in 1947.

General CHORPENING. That is right.

Mr. FORD. Does that coincide with the testimony that Mr. LaCroix gave last year when he said the rates were set in 1948?

General CHORPENING. I will check that date.

Mr. FORD. It may be the directive was issued in 1947 and the order, as far as the Corps of Engineers was concerned, was actually put into effect in 1948.

General CHORPENING. We will check it and insert the correct date.

(The information requested follows:)

The effective date of the regulation was August 1, 1948.

Mr. FORD. Will you include in the record also a copy of the pertinent nformation in CPR–P16?

General CHORPENING. We can include that, yes, sir.

NOTE.—The information requested was not supplied at the time of printing and may be found in the appendix appearing at the end of the printed hearings of part 2.

Mr. FORD. When did the recommendations to which Lt. Col. Raymond J. Harvey referred become formalized as far as the Corps of Engineers is concerned?

On page 686 there is a directive—I guess that is what you would call it—by Lt. Col. Raymond J. Harvey, in reference to this subject.

General CHORPENING. That letter referred to was the recommendations from the Office of the Chief of Engineers to the Secretary of the Army that rental rates be changed. That was just the recommendation of the Corps of Engineers, which was made on that date. Colonel Harvey was at that time actually my executive. I was then Chief of Personnel of the Corps of Engineers.

DEPARTMENT OF DEFENSE ACTIONS IN INCREASING RENTALS

Mr. FORD. So on February 7, 1951, the Corps of Engineers made definite and specific recommendations to the Secretary of the Army?

General CHORPENING. Yes, sir.

Mr. FORD. And no action has been taken by the Department of the Army for 364 days on this subject.

General CHORPENING. There has been action taken, I know, as a result of this recommendation by the Corps of Engineers.

The Secretary of the Army went out to all parts of the Army to get information looking toward issuing changes. In the meantime, last summer, July 9, 1951, actually, the Bureau of the Budget issued a directive, which is Bulletin No. 52–2, to the heads of the executive departments and establishments, re rent policy for quarters supplied Federal employees. That directive embodied generally the same criteria as were recommended by the Corps of Engineers to the Secretary of the Army, not exactly, but along the same lines. When that directive was received by the Secretary of Defense, he then had a committee set up from Army, Navy, and Air Force to study ways and means to comply with this circular resolving the differences that existed, do exist, between the different components of the Defense Establishment.

Mr. Jacobs, who is here today, from our Real Estate Division, has sat in on those meetings—many of them. I don't know just how many. These questions have been resolved. He sat in not as the Army representative but as a representative of the Real Estate Division of the Corps of Engineers where certain of the real-estate requirements of appraisal must be carried on under the policy set up.

As a result of those meetings we received in the Office of the Chief of Engineers on the 19th of January a directive from G–4 of the Army to proceed with the appraisal of all Army quarters and the setting of rates in accordance with the provisions of this directive of the Bureau of the Budget and it is contemplated that we will perform that function through our Real Estate Division and offices in our division and district offices in the field. As soon as we can, we will appraise the units and advise the commanding officers of the appraised rates. As soon as either the Secretary of Defense or the Secretary of the Army has issued the necessary authorizing instructions saying

that the new rates are effective, then those new rates will go into effect upon completion of appraisals.

As I said earlier in my testimony, it is now estimated they will become effective by July 1, 1952.

Mr. FORD. I think you testified earlier that if these new rates were going to go into effect it would be on or about July 1.

General CHORPENING. Yes, sir. There is nothing in my possession stating that that is the date they are proposing to do it, but informal information has been that it is hoped that they will be able to implement this and put them into effect by that time.

Mr. FORD. Is there any reason, as far as the Corps of Engineers is concerned, why you could not put into effect an order issued within the next 3 or 4 months that would be effective as of July 1?

General CHORPENING. There is no reason at all as far as the Corps of Engineers is concerned. As far as our quarters are concerned, we already have pretty good appraisal proceedures. About all that is needed is a little rechecking, the establishment of rates and the directive to put the rates into effect.

That cannot be said about the other quarters that may exist on other Army installations where we have made no recent appraisals.

Mr. KERR. Are you entitled to make any recent appraisals of the cost of anybody except the engineers.

General CHORPENING. Yes, sir. The Corps of Engineers is responsible for carrying on all real-estate transactions and matters connected with the Department of the Army and for Air Force.

Mr. KERR. Have you a right to fix the rental values of their real estate? Suppose you put high officers in there and you say their rental ought to be $100 a month, what would become of that?

General CHORPENING. This only applies to civilian occupants. The rental rates to be paid by officers are set by law in the pay scales.

Mr. KERR. That is what I was thinking about a while ago when we were discussing that. The costs and charges for officers are all fixed.

General CHORPENING. Yes, sir.

Mr. KERR. And you have nothing to do with those rates?

General CHORPENING. That is correct. This discussion only pertains to rentals charged to civilians living in Government quarters.

(Discussion off the record.)

Mr. FORD. Am I correct, General, in assuming that the Corps of Engineers will be required to make the appraisal for all civilian quarters for all personnel of the Army and the Air Force?

Mr. JACOBS. The Air Force has not requested us to undertake any such work for them. We will not, of course, do it until they make arrangements to bear their proportionate share of the cost of operation.

General CHORPENING. Our directive now is only from G4 for the Army.

Mr. FORD. Which would entail appraisal work, for all the Department of the Army, not only the Corps of Engineers, but the entire Army Department?

General CHORPENING. That is right.

Mr. DAVIS. Can you tell us whether or not the Air Force and Navy have some regulation in effect similar to the one now applicable in the Army?

General CHORPENING. I have never seen their regulations. I do not know whether their regulations are similar or not.

Do you know, Mr. Jacobs?

Mr. JACOBS. The Air Force has comparatively the same basis of rentals, as I understand from the representative of the Air Force. The Navy has a system which they revised about a year ago. That is not at all like these.

Mr. DAVIS. Does the Air Force have the 10-percent maximum provision in it?

Mr. JACOBS. I have been told that is true.

Mr. DAVIS. Do you know whether that is true with respect to the Navy?

Mr. JACOBS. The Navy does not. They made a resurvey of all their housing and established a new system of rentals. But that was about a year ago. It was recently put into effect.

(Discussion off the record.)

STATUS OF DEPARTMENT OF DEFENSE RENTAL DIRECTIVE

Mr. RABAUT. Mr. Freed, can you make known to the committee what the status of the rental directive of the Department of Defense is at the present time?

Mr. FREED. The Department of Defense directive will be issued the latter part of February and this information was relayed to me at 5 o'clock, February 5, by Mr. Todd, chairman of the working committee among the members of Army, Navy, and Air. He didn't want to pin himself down to a specific date. He said he would have it out by the last of February this year.

Mr. RABAUT. What has been the cause of delay in promulgating this directive?

Mr. FREED. The last delay caused by the waiting of this directive in regard to one particular point for the Navy, which is now being resolved.

Mr. RABAUT. It is about high time they got down to business.

Mr. FORD. Will that directive to which you refer go into effect as of July 1?

Mr. FREED. The target date is July 1, 1952.

Mr. FORD. The new rentals will start as of July 1, 1952, not just the processing of the evaluation and estimates, et cetera.

Mr. FREED. The new rates are expected to go into effect the 1st of July 1952.

Mr. FORD. For all agencies of the Department of Defense?

Mr. FREED. That is my understanding, sir.

(Discussion off the record.)

TUESDAY, FEBRUARY 5, 1952.

UNITED STATES SOLDIERS' HOME

WITNESSES

COL. D. C. CORDINER, DEPUTY GOVERNOR, UNITED STATES SOLDIERS' HOME
MISS MARY R. POWDERLY, ADMINISTRATIVE OFFICER, UNITED STATES SOLDIERS' HOME
JAMES C. BOYLE, ADMINISTRATIVE OFFICER, UNITED STATES SOLDIERS' HOME
WILLIAM P. PUGH, ADMINISTRATIVE OFFICER, UNITED STATES SOLDIERS' HOME
WALTER E. MARLOW, Jr., BUDGET ANALYST, UNITED STATES SOLDIERS' HOME
RAMOND A. GRITTON, BUDGET ASSISTANT, UNITED STATES SOLDIERS' HOME
STUART H. D. FREED, BUDGET ANALYST, OFFICE, COMPTROLLER OF THE ARMY

SOLDIERS' HOME PERMANENT FUND

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate:			
Annual	$2,397,262	$2,993,000	$3,452,000
No year	12,750,000	373,000	
Proposed supplemental due to pay increases		146,000	
Prior year balance available	29,493	4,789,828	223,000
Reimbursements from other accounts	152		
Total available for obligations	15,176,907	8,301,828	3,675,000
Balance available in subsequent year	−4,789,828	−223,000	
Unobligated balance, estimated savings	−882		
Obligations incurred	10,386,197	8,078,828	3,675,000

Obligations by activities

Description	1951 actual	1952 estimate	1953 estimate
1. Medical care	$739,148	$1,044,768	$1,268,130
2. Domiciliary activities	539,311	681,919	933,668
3. Administration and central services	998,344	1,562,313	1,315,202
4. Farm activities	119,577		
5. Permanent improvements	7,989,817	4,789,828	158,000
Obligations incurred	10,386,197	8,078,828	3,675,000

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Total number of permanent positions	662	668	669
Full-time equivalent of all other positions	40	42	42
Average number of all employees	693	676	710
Average salaries and grades:			
General schedule grades:			
Average salary	$2,696	$3,171	$3,226
Average grade	GS-3.3	GS-3.3	GS-3.3
Crafts, protective, and custodial grades:			
Average salary	$2,381	$2,881	$2,845
Average grade	CPC-3.5	CPC-3.4	CPC-3.4
Ungraded positions: Average salary	$897	$927	$928
01 Personal services:			
Permanent positions	$1,447,903	$1,671,673	$1,761,668
Part-time and temporary positions	61,095	63,224	64,063
Regular pay in excess of 52-week base		4,810	6,423
Payment above basic rates	17,166	32,257	33,882
Total personal services	1,526,164	1,771,964	1,866,036
02 Travel	1,766	2,780	2,650
03 Transportation of things	813	1,993	2,360
04 Communication services	4,170	4,462	4,570
05 Rents and utility services	38,365	44,040	45,050
06 Printing and reproduction	1,677	1,705	1,970
07 Other contractual services	244,560	362,648	305,700
08 Supplies and materials	730,540	752,130	873,100
09 Equipment	31,888	210,055	577,800
10 Lands and structures	7,934,798	5,089,828	193,000
11 Grants, subsidies, and contributions	6,524	7,716	7,300
Subtotal	10,521,265	8,249,321	3,879,536
Deduct charges for quarters, subsistence, and laundry	135,068	170,493	204,536
Obligations incurred	10,386,197	8,078,828	3,675,000

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year	$471,675	$7,869,448	$6,351,954
Obligations incurred during the year	10,386,197	8,078,828	3,675,000
	10,857,872	15,948,276	10,026,954
Deduct:			
Reimbursable obligations	152		
Unliquidated obligations, end of year	7,869,448	6,351,954	2,474,105
Total expenditures	2,988,272	9,596,322	7,552,849
Expenditures are distributed as follows:			
Out of current authorizations	2,685,984	2,952,400	3,217,725
Out of prior authorizations	302,288	6,643,922	4,335,124

Mr. RABAUT. Mr. Reporter, please insert in the record at this point pages 702 to 705, inclusive, of the justification.

(The above matter referred to follows:)

Standard classification schedule for direct obligations

	By objects of expenditure	Estimate, 1952	Estimate, 1953	Increase (+) or decrease (−)
01	Personal services, civilian	$1,601,471	$1,661,500	+$60,029
02	Travel	2,780	2,650	−130
03	Transportation of things	1,993	2,360	+367
04	Communication services	4,462	4,570	+108
05	Rents and utility services	44,040	45,050	+1,010
06	Printing and reproduction	1,705	1,970	+265
07	Other contractual services	362,648	305,700	−56,948
08	Supplies and materials	752,130	873,100	+120,970
09	Equipment	210,055	[1] 577,800	+367,745
10	Lands and structures	5,089,828	193,000	−4,896,828
11	Grants, subsidies, and contributions	7,716	7,300	−416
	Total direct obligations	8,078,828	3,675,000	−4,403,828

[1] Includes $223,000 transferred from fiscal year 1952 funds.

Summary of projects

Project No. (1)	Purpose of project (2)	Actual obligations, fiscal year 1951 (3)	Estimated obligations, fiscal year 1952 (4)	Estimate, fiscal year 1953 (5)
1	Medical care	$739,148	$1,044,768	$1,268,130
2	Domiciliary activities	539,311	681,919	933,668
3	Administration and central services	998,344	1,562,313	1,315,202
4	Farm activities	119,577		
5	Permanent improvements	7,989,817	4,789,828	158,000
	Total obligations	10,386,197	8,078,828	3,675,000
	Unobligated balance, estimated savings	+882		
	Balance available in subsequent year	+4,789,828	+223,000	
	Prior year balance available	−29,493	−4,789,828	−223,000
	Reimbursements from other accounts	−152		
	Proposed supplemental due to pay increases		−146,000	
	Total appropriation or estimate	15,147,262	3,366,000	3,452,000

Recapitulation of obligations by objects of expenditure, fiscal year 1953

Project No.	Purpose of activity	Personal services (01)	Travel (02)	Transportation of things (03)	Communication services (04)	Rents and utility services (05)	Printing and reproduction (06)	Other contractual services (07)	Supplies and materials (08)	Equipment (09)	Lands and structures (10)	Grants, subsidies, and contributions (11)	Total
1	Medical care	$666,917	$2,435	$2,000	$1,450	$900	$200	$104,712	$258,538	$230,978			$1,268,130
2	Domiciliary activities	465,836	210	175	300	6,900	510	22,985	99,245	330,207		$7,300	933,668
3	Administration and central services	528,747	5	185	2,820	37,250	1,260	178,003	515,317	16,615	$35,000		1,315,202
4	Farm activities												
5	Permanent improvements										158,000		158,000
	Total	1,661,500	2,650	2,360	4,570	45,050	1,970	305,700	873,100	577,800	193,000	7,300	3,675,000

General Statement

Mr. Rabaut. Colonel, we would like to have your general statement.

Colonel Cordiner. It is with pleasure that I appear before you today to justify the request of the United States Soldiers' Home for funds to operate for the fiscal year 1953.

I have been the Deputy Governor of the United States Soldiers' Home for approximately 7 years and during that time I have developed a great pride in being associated with the home, which has as its primary function the providing of a home for former soldiers and airmen who have faithfully served their country.

Every member takes a great deal of pride in the fact that this is really his home, one for which he has contributed during the years he served in the Army or Air Force, and that the cost of operation of the home is not borne by the taxpayers of the country.

Membership in the Home is confined to former warrant officers and enlisted men who have had some service in the Regular Army or Regular Air Force. The total membership on January 30, 1952, was 1,555. Eligibility falls into three classes:

First, those who have served honestly and faithfully 20 years or more.

Second, those of less than 20 years' service who are rendered incapable of earning their own livelihood by reason of disease or wounds incurred in the military service of the United States, in line of duty and not the result of their own misconduct.

Third, those of less than 20 years' service who have served during any war or military operations in which their lives were hazarded or who have contributed, except through fines and forfeitures, to the support of the United States Soldiers' Home, and who, by reason of wounds, sickness, old age, or other disability incurred after enlistment or aggravated by military service, are unable to earn their own livelihood.

It has been determined, by administrative authorities concerned, that all laws and administrative regulations now applicable to personnel of the United States Army in relation to the Soldiers' Home are equally applicable to personnel of the United States Air Force.

Appropriations for the maintenance and operation of the home are made from the United States Soldiers' Home permanent fund which is a trust fund. At this time there are three principal sources of revenue from which the permanent fund is derived: First, contributions made by each soldier or airman of the Regular Army or Regular Air Force of 10 cents per month; second, fines and forfeitures which are imposed upon soldiers or airmen of the Regular Army or Regular Air Force; and third, the 3 percent which is paid by the Treasurer of the United States as interest on the permanent fund in the United States Treasury. The Congress has fixed a limit of 25 cents on the monthly deductions, the exact sum to be deducted to be fixed by the Secretary of the Army. The deduction has been fixed at 10 cents per month since January 1, 1943. The permanent fund on December 31, 1951, amounted to $41,749,969.45, of which amount $4,202,205 was appropriated last year, but has not yet been taken out of the Treasury and is included in that $42 million.

The trust fund has been greatly augmented during the past few years because of the increased strength of the Regular Army and the Regular Air Force, which in turn will cause increased future demands because of the greater number of soldiers and airmen to become eligible for admission to the home.

A master plan for the development of the home was initiated and the Congess in fiscal year 1951 appropriated $12,750,000 to start this program. Work is now in progress on the fourth floor of the planned eight-story domiciliary building. Contracts are now being awarded for the new nursing unit to be erected adjacent to the present hospital buildings. This unit, having an "atomic core," for which no standards had been determined, presented problems in architectural design and construction which delayed the approval of a design satisfactory to the National Security Resources Board.

A total of 175 acres has been ceded to the General Services Administration for use as streets and for the construction of hospitals and an office building. The land for the latter purpose to be paid for at prices to be determined by the General Services Administration. The elimination of this acreage resulted in the cessation of all dairy farm and chicken farm activities as of June 30, 1951.

There has been a steady improvement in the medical and other services of the home. The affiliation of the home hospital with the Army Medical Center in the training of medical residents and interns has raised the standard of care and treatment of patients. The assignment of social and recreational workers to the hospital has added much to the comfort and morale of patients.

Several years ago extensive hobby shops were established at the home. It is very gratifying to me, and will probably be of interest to the committee, to know that our efforts to provide wholesome diversion for our members has proven so successful. At the Golden Age Hobby Exhibit, held last November, the following awards were given to exhibits of members: 15 blue ribbons, 9 red ribbons, individual first prize for all exhibits, 1 special award.

In addition to these individual prizes, the Soldiers' Home Hobby Shop was awarded first prize of all institutional exhibits.

I would like to call your attention to the fact that the request of $3,452,000 now being considered by this committee, is not included in the total of the President's budget. Funds appropriated by the Congress for operation of the home are taken from the Soldiers' Home permanent fund, which is a trust fund, and not from the general fund of the Treasury.

In presenting the 1953 budget estimates to the committee for their consideration, attention is invited to the following facts:

The estimates, amounting to $3,452,000, exceed the amount appropriated for the fiscal year 1952 by $86,000. I will indicate that this is subject to qualification.

Following the passage of Public Law 201, Eighty-second Congress, it was estimated by the Bureau of the Budget that an additional sum of $146,000 would be required for fiscal year 1952 to meet the cost of pay increases provided therein, and this amount is shown under the estimated obligations for 1952 on page 703 of the estimates. However, after several months of operation it has been determined that the original estimate of $146,000 should be reduced to $135,000, and it has been requested that this sum be included in a supplemental bill

for fiscal year 1952. On the assumption that the Congress will appropriate the additional funds required, the total anticipated appropriation for 1952 will be $3,501,000, which is greater by $49,000 than the amount requested for fiscal year 1953.

Major increases or decreases in fiscal year 1953 compared to fiscal year 1952 are:

1. In supplies and materials there is an increase of $120,790, of which $53,356 is due to increase in rations, $28,452 is for increased cost and use of fuel oil, and $38,982 is for supplies heretofore furnished from surplus stocks on hand and for increased costs of all supplies.

2. There are increases amounting to $70,844 for the purchase of equipment for the present activities and buildings, while there is a decrease of $149,099 in the amount requested to continue the purchase of equipment for the new domiciliary and new hospital buildings.

3. Increases in personal services amount to $60,029. In connection with this the following information is furnished for the committee:

In preparing the fiscal year 1952 estimated obligations for personal services for use in the 1953 estimates, the sum of $97,287 in lapses, which occurred due to our inability to fill new positions authorized for the hospital, was inadvertently applied to all projects having personal services instead of being deducted entirely from project 1, "Medical care." The fact that portions of this lapse figure were erroneously deducted from projects other than medical care, resulted in the reflection of increases in these projects, when actually there should have been reflected small decreases for projects other than medical care.

The following are the correct comparisons of estimated personal services obligations:

Budget project	1952	1953	Difference
1. Medical care	$604,566	$666,917	+$62,351
2. Domiciliary activities	467,073	465,836	−1,237
3. Administration and central services	529,832	528,747	−1,085
Total	1,601,471	1,661,500	+60,029

It was not until after these justifications had been submitted to this committee that this discrepancy was realized. The Bureau of the Budget has been informed of this discrepancy.

4. Miscellaneous small increases amount to $1,750.

5. There is a decrease of $57,000 in funds requested for the general repair of buildings such as roof repair, painting, rehabilitation of toilets, repairing powerhouse boilers, et cetera.

Permanent improvements accomplished during fiscal year 1952, for which $300,000 was appropriated, consisted of the installation of four new elevators in the present hospital buildings. In comparison, permanent improvements to be made in fiscal year 1953 consist of the construction of two residences for civilian employees and the installation of new elevators in the Grant, Scott, and Sherman Buildings. Funds requested for this purpose in 1953 amount to $193,000.

Gentlemen, we have a very happy, contented, and appreciative membership at the home and I would like to take this occasion to place in the record a tribute to one of our officials who is about to leave

our happy family. I refer to Brig. Gen. Robert McDonald, United States Army, retired, Chief Surgeon, who is leaving the home on April 1, 1952. During his term of office, by his close attention to duty, his high character, his unfailing friendliness and courtesy toward all our members, afflicted or not, combined with his technical knowledge, he has been a material factor in maintaining the high standards that exist at the home. He knows every member by name, and, where afflicted, knows his ailment. All this he has accomplished without regard to hours of the day or days of the week and without regard to the fact that his pay is less than that of the lowest paid full-time civilian employee.

This tribute is fully subscribed to by General Haislip, the governor of the home, and I am sure by all the members.

Mr. KERR. Let me say on the record that I appreciate very much your tribute to General McDonald. These things are fine and ought to go on the record, especially when it refers to warriors who fought our wars and have taken care of our country.

Colonel CORDINER. Thank you.

TOTAL MEMBERSHIP

Mr. RABAUT. What is your present capacity and population and what is anticipated for fiscal year 1953?

Colonel CORDINER. We had 1,555, present and absent on the first of the month. Of that number there are an average of about 85 on pass, and furlough, and 58 are in other hospitals.

CAPACITY

Mr. RABAUT. What is your capacity?

Colonel CORDINER. That 1,555 is about our present capacity. We have 51 emergency beds in the hospital and a total of 1,565 beds altogether, both in the barracks and in the hospital.

Mr. RABAUT. Including the emergencies?

Colonel CORDINER. Yes.

Mr. RABAUT. What is the number of emergency beds in the hospital?

Mr. PUGH. 51. We have 383 beds in the hospital, of which we keep 51 open for emergencies.

Mr. RABAUT. What is anticipated for fiscal year 1952?

Colonel CORDINER. We don't expect to open the new barracks until July 1, 1953, at which time we hope to have about 840 additional beds, absorbing about 150 undesirable beds from the older buildings.

Mr. RABAUT. You have 383 now. I want to know what you are going to have after July 1953.

Colonel CORDINER. After July 1953? There will be 1,182 beds plus 840 minus 150. 1,182 beds right now in the domiciliary area.

(There was discussion off the record.)

Mr. RABAUT. What is going to happen to the 1,182 beds you have now in 1953?

Colonel CORDINER. About 150 of them plus the older men will move into the new barracks.

Mr. RABAUT. So you are going to reduce this by 150?

Colonel CORDINER. We are going to reduce the 1,182 beds available now by 150.

ADDITIONAL BEDS ADDED

Mr. RABAUT. Are you going to add any new ones?

Colonel CORDINER. We will have 840 new beds.

Mr. RABAUT. You will add 840 to this. That will make it 2,022, and you will take off 150.

Colonel CORDINER. That is right.

Mr. RABAUT. Why are you taking those 150 away?

Colonel CORDINER. Because they are in dark basement rooms or in crowded rooms.

Mr. RABAUT. What happens to the 383 beds?

Colonel CORDINER. That is in the hospital and the normal number in the hospital is about 330, leaving the difference between 330 and 383 as emergency beds.

NUMBER ON WAITING LIST

Mr. RABAUT. How many people are now on the waiting list?

Colonel CORDINER. Approximately 100 men.

Mr. RABAUT. Approximately 100?

Colonel CORDINER. That has been a decrease in the past 2 years from an original waiting list of 500 due to the economic situation and the fact that some men reenlisted and also the fact that other men obtained commissions on the retired list. That served to clear up our waiting list.

Mr. RABAUT. When do you expect to take care of this 100?

Colonel CORDINER. We can take care of them when we open this other building.

Mr. RABAUT. Then what is going to happen to the other beds in the building?

Colonel CORDINER. At the time we asked for this new building our waiting list grew very rapidly from zero to 500. At the time the appropriation was made we had approximately 500 on our waiting list and the waiting list was growing rapidly. The economic situation changed after that and other changes caused the waiting list to fall down to about 100, but we anticipate that when jobs are not so easy to obtain, we will fill up the domiciliary area.

DROP IN ADMISSION REQUESTS

Mr. RABAUT. Do you think there was some falling-off from the original 500 requesting admission because of the delay and the lack of opportunity for them to get in because of crowded conditions?

Colonel CORDINER. I would say very little due to that factor.

Mr. RABAUT. If economic conditions are good, then you really do not need all these beds?

Colonel CORDINER. Of course, we have a great many thousands of men who are eligible and that number is being increased every day.

Mr. RABAUT. I should think so, but you are making a fine statement that you do not need the beds.

Colonel CORDINER. We need them, there is no question about it.

Mr. RABAUT. Tell me how you are going to use them.

MASTER PLAN

Colonel CORDINER. Let me go back to the beginning. When the master plan was evolved, the engineers made a thorough study of the situation and they determined that it was uneconomical to continue to maintain our present buildings. So the purpose is to tear the old buildings down, those which are uneconomical to maintain, as rapidly as conditions will permit.

(There was discussion off the record.)

Mr. RABAUT. We have had a discussion off the record concerning this matter, now please make a statement about what the engineers have said about the old buildings and their bed capacity.

Colonel CORDINER. When the engineers drew up the present master plan for Soldiers' Home, they determined that all buildings except the Grant Building, which holds a out 284 beds, should be torn down as soon as practicable and men quartered in new barracks.

Mr. RABAUT. Are you going to purchase new beds and all the other equipment for these new buildings?

Colonel CORDINER. We propose to furnish entirely new equipment for the new building.

Mr. RABAUT. Supplies, too—sheets, pillow cases?

Colonel CORDINER. We will buy the sheets and pillow cases as necessary and as the population increases.

Mr. RABAUT. Then you are getting ready for something that really isn't before us now, aren't you?

Colonel CORDINER. We will not be able to buy complete equipment for the new building. I do not estimate we will be able to equip more than four floors with the money we have appropriated here.

TRUST FUND

Mr. RABAUT. What is the amount presently available in the trust fund and what do you anticipate in 1953?

Colonel CORDINER. Well, at the present time, including the $4,202,205 set up for the new hospital building, we have $42 million.

Mr. RABAUT. The $4 million is still to be turned over to you by the Treasury? Right?

Colonel CORDINER. Yes.

Mr. RABAUT. Furnish for the record the tables showing the status of this fund annually for the past 5 years, also list your capacity and average population for each of these years.

(The information requested follows:)

Status of Soldiers' Home permanent fund

Fiscal year	Balance beginning of fiscal year	Plus credits during fiscal year	Minus withdrawals during fiscal year	Balance end of fiscal year	Net increase (+) or net decrease (−)
1947	$16,301,181.80	$7,133,082.42	$1,432,913.50	$22,001,350.72	+$5,700,168.92
1948	22,001,350.72	9,798,596.78	2,454,715.08	29,345,232.42	+7,343,881.70
1949	29,345,232.42	8,550,306.56	2,537,801.73	35,357,737.25	+6,012,504.83
1950	35,357,737.25	6,968,026.82	2,690,285.44	39,635,478.63	+4,277,741.38
1951 [1]	39,635,478.63	7,930,945.90	10,947,601.60	36,618,822.93	−3,016,655.70
Total		40,380,958.48	20,063,317.35		+20,317,641.13

[1] Withdrawals include $8,547,795 of the $12,750,000 authorized for new construction. Balance includes $4,202,205 of the $12,750,000 for new construction.

Interest paid on Soldiers' Home permanent fund

Fiscal year:	Interest
1947	$498,699.20
1948	677,392.41
1949	888,703.99
1950	1,065,228.25
1951	1,200,988.12

Average present and absent and capacity

Fiscal year	Average present and absent	Capacity
1947	1,509	1,523
1948	1,534	1,565
1949	1,524	1,575
1950	1,524	1,575
1951	1,546	1,565

STATUS OF CONSTRUCTION PROGRAM

Mr. RABAUT. What is the present status of your construction program?

Colonel CORDINER. At the present time the district engineer has let a contract for a new domiciliary building for $7,200,000. The Hyman Construction Co. has the contract and as of today four stories are complete as to the concrete framework without being enclosed. In addition to that, there are one or two other floors going up. The construction program, I may say, is on schedule, and we expect to have it completed by April first of next year.

ACQUISITION OF LAND BY VA

Mr. RABAUT. What agency was it that you said was going to take some of your land?

Colonel CORDINER. The Veterans' Administration has taken over some of the land. They are going to put a hospital there that they originally proposed to put on the Nevius tract. Then the idea was to erect the Veterans' Administration office building. It is my understanding that that has been abandoned. The National Capital Parks and Planning Commission objected.

Mr. RABAUT. Has any indication been made to you people as to what they are going to give you for this land?

Colonel CORDINER. I understand that the General Services Administration propose to give us about $20,000 an acre, but we have no confirmation of that.

Mr. RABAUT. $20,000 an acre?

Colonel CORDINER. Yes, sir.

Mr. RABAUT. What land are they taking?

Colonel CORDINER. They are taking 140 acres on the southern section of the reservation, plus about 35 acres to be used for roads, which includes North Capitol Street extended and originally called for the extension of Illinois Avenue through the grounds, but I understand the extension of Illinois Avenue has now been abandoned.

Mr. RABAUT. You say you understand this and you understand that; don't you people have something to say in yielding this land?

Colonel CORDINER. No. Under the agreement we had with the Bureau of the Budget, it was determined that the price would be determined by the General Services Administration.

Mr. RABAUT. I am not talking about the price, but I am talking about how much land they are going to take. How they are going to cut up your ground.

Colonel CORDINER. We didn't have very much to say about it.

Mr. RABAUT. I want to know why.

Colonel CORDINER. I would like to talk off the record.

(There was discussion off the record.)

AMOUNT RECEIVED FROM SALE OF FARM

Mr. RABAUT. What did you receive from the sale of your farm?

Colonel CORDINER. We made a full report in our last year's hearing. I believe it is included in our annual report.

Mr. RABAUT. You made a report to the committee?

Colonel CORDINER. We got $77,065 from the sale of the dairy herd, $24,730.55 from the sale of equipment. That makes a total of $101,795.55.

There were expenses against that amounting to $10,954.50, leaving a net amount of $90,841.05.

Mr. RABAUT. Have you made any proposition to anybody about selling them the barns?

Colonel CORDINER. No.

Mr. RABAUT. Have you sold the equipment out of the barns?

Colonel CORDINER. The equipment out of the barns have been sold.

Mr. RABAUT. All been sold?

Colonel CORDINER. All has been sold.

Mr. RABAUT. You have some valuable fences around there too.

Colonel CORDINER. We have some valuable fences and we have a very valuable building in there which we wanted to move. It is made of brick and steel. We tried to make a deal with different people to move that building in exchange for some of the wreckage in the other buildings, but we couldn't make a profitable deal.

Mr. RABAUT. Which building is that?

Colonel CORDINER. That is the equipment building that is in back of the old nursery.

Mr. RABAUT. What is the value of that building?

Colonel CORDINER. I would say around $13,000.

(There was discussion off the record.)

COST OF MEDICAL CARE

Mr. KERR. The cost of the medical care in 1953 is $62,351 more in personal services than it was in 1952. How do you explain that?

Colonel CORDINER. In January of 1951 we came under the Classification Act and that automatically put us under the civil service pay scales and leave scales, including the 40-hour week, so we had to take on 47 additional employees at the hospital, but we couldn't take them on until the appropriation bill was finally passed last year, which I believe was November 1. We had that lapse money of $97,000, and a portion of that belongs to the hospital, $60,000, which was due to the

inability to employ those men because of unavailability of funds. It wasn't really a lapse of money. It was just money that accumulated through our inability to employ people, because the money was not available.

DOMICILIARY FACILITIES

Mr. KERR. You have an item of domiciliary activities for 1952 of $467,703 and you suggested you have more people to take care of. In 1953 it falls off $1,237. This is only for personal services.

Colonel CORDINER. That is due to adjustments due to curtailment of leave from 30 days' time to 15 days and to our adjustment in board and room allowances, so that we have the same number of employees in domiciliary activities for next year as we have this year.

ADMINISTRATION AND CENTRAL SERVICES

Mr. KERR. In the administration and central services, however, there is a difference of $1,085 less in 1953 than it was in 1952. How do you explain this variation in personal services?

Colonel CORDINER. In the administration and central services, we have a cut in leave amounting to approximately $2,700. We have total increases in projects of $1,036 and decreases of $2,121, making net decrease of $1,085.

AVERAGE AGE OF MEMBERS

Mr. KERR. What is the average age of your members now?

Colonel CORDINER. Just under 66 years, 65.86. Last year it was over 66 years.

Mr. KERR. The average in recent years has gone higher and higher?

Colonel CORDINER. This year it is a little bit less. But the trend in recent years has been up and up.

PROPOSED HOSPITALS

Mr. RABAUT. How many hospitals are going to be put out on your grounds?

Colonel CORDINER. The plan was to put up the District Medical Center in the southwest corner of the home grounds.

Mr. RABAUT. Owned by the District of Columbia?

Colonel CORDINER. Owned by the District of Columbia.

Mr. RABAUT. How much ground are they going to take?

Colonel CORDINER. About 50 acres.

Mr. RABAUT. Is that going to be a private hospital?

Colonel CORDINER. I understand that the Federal Government is going to make some contributions to it. I don't know just what hospitals are involved, but I think they are private hospitals, but coming more or less under Federal supervision.

(There was discussion off the record.)

REIMBURSEMENT FOR LAND TAKEN

Mr. RABAUT. Who is going to buy the land for these hospitals from your people?

Colonel CORDINER. The General Services Administration will determine the price and, as a matter of fact, the land has actually been

turned over to the General Services Administration, although no money has been paid for it as yet.

Mr. RABAUT. That is a deal for the Government to turn money back to you people, but are you going to be paid for that land?

Colonel CORDINER. That is the understanding, that we will be paid whatever the General Services Administration determines should be the price.

Mr. RABAUT. I certainly think you should be paid for it. It is true the original purchase wasn't taken from the 10-cent contributions, but it has been maintained all these years from those contributions from the soldiers.

(There was discussion off the record.)

REASONS FOR INCREASED COSTS

Mr. RABAUT. In 1951 your obligations for the medical activity were $739,148. In 1952 it was estimated at $1,044,768. Now you are requesting $1,268,130. How do you explain this large and rapid increase?

Colonel CORDINER. First, I would say that it is largely due to the classification of our employees under the civil service rules and regulations.

Mr. RABAUT. They were reclassified?

Colonel CORDINER. Reclassified. The Board of Commissioners formerly set the wage scale and we had to live within limited means at that time before the Congress took over, I would say, until 1940. It was just barely enough to keep the home going. Civilian employees worked from 50 to 60 to 70 hours a week. Now that we have brought them down to 40 hours and we have given them leave and other privileges which they should get——

Mr. RABAUT. In view of the nursing shortage, do you anticipate you will be able to find the 18 you are requesting?

Colonel CORDINER. We already have the 18. We are very fortunate in having Sisters of Charity who work for very little and without regard for hours and do a magnificent job.

Mr. RABAUT. I did not know that.

INCREASE IN DOMICILIARY ESTIMATE

What is the reason for the increase in your domiciliary estimate from $539,311 in 1951 to $681,919 in 1952, to $933,668 today?

Colonel CORDINER. First, the ration cost has gone up very materially from around sixty-odd cents until today our ration is costing us 78.7 cents. We are only allowed 74 cents. That is one material factor. The new equipment is a large factor.

The other factor is again the increase in salaries and what-not for our civilian employees.

Until 1951 we had a lot of surplus property. Today we have hardly any.

(There was discussion off the record.)

SAVING FROM CURTAILED FARM ACTIVITIES

Mr. RABAUT. The curtailment in the farm activities has resulted in a saving, hasn't it?

Colonel CORDINER. It has resulted in a saving which I estimate about $100,000.

EQUIPMENT

Mr. FORD. On page 713 of the justification under the item "Equipment," it shows an increase from $91,654 for fiscal 1952 to $230,978 for fiscal year 1953. How do you account for that?

Colonel CORDINER. The increase is due to the new equipment for the new hospital building. The Bureau of the Budget had us include in the 1953 estimate, $112,000, that had already been appropriated in 1952. And that $230,000 is just an apparent increase and not an actual increase.

Mr. FORD. In other words, money was authorized last year for this—or rather in the current fiscal year—which cannot be expended by the time the fiscal year ends and it is simply a carry-over of that previous authorization?

Colonel CORDINER. Yes, sir.

Mr. MARLOW. For obligation purposes only.

QUARTERS FOR EMPLOYEES

Mr. FORD. There is one item back here on page 748. You have an item of $33,000 for land and structures, quarters for employees. According to the justification it says:

> Funds are requested to construct two two-bedroom residences to replace existing structures.

That amounts to about $16,500 for each home. Isn't that a rather expensive residence for a two-bedroom home?

Colonel CORDINER. Those are the figures the engineers gave us and approved after careful consideration by the Bureau of the Budget.

Mr. FORD. It seems rather high when you consider the fact that the land is already there. It doesn't involve the purchase of property.

Colonel CORDINER. We are governed entirely on that by the engineering estimate. These two buildings will probably be placed in a rather remote location from the other buildings because we hope to set up a quarters area for the employees and the officers in a location that will be removed from the domiciliary area, where it will not interfere with the activities of the members.

RENTAL POLICY

Mr. FORD. When these homes are constructed, what will be the rental policy that you have there?

Colonel CORDINER. We recently increased the rent by 20 percent for those people living in the quarters, from $50 to $60. That is for a three-bedroom house. For a two-bedroom house the increase was 10 percent, from $30 to $33.

Mr. FORD. Those funds which you receive from rentals, to what fund do they go?

Colonel CORDINER. They are deducted and the employee just gets that much less take-home pay and the Bureau of the Budget curtails us by that amount in our request for funds.

Mr. FORD. In other words, the rent from these residences or anything comparable to them theoretically goes into the general fund.

Colonel CORDINER. Theoretically, yes.

Mr. FORD. I am not quite sure how that operates.

Colonel CORDINER. A man is getting $4,800 a year and we are charging him $1,200 a year rental. We just deduct that from his salary and we deduct it from our estimates as we present them to you.

Mr. FORD. In that way, doesn't the Soldiers' Home get the benefit from it?

Colonel CORDINER. It just keeps our trust fund up that much.

Mr. FORD. Certainly. I want the money from these rentals to go to the Soldiers' Home trust fund. I don't want it to go to the general fund of the Treasury. Is that the way it is actually handled from an accounting point of view?

Colonel CORDINER. Yes.

Mr. FORD. Who determines what your rental policy will be out there?

Colonel CORDINER. We have a board of officers that met soon after this cost-of-living increase in pay went into effect and made an adjustment, which had not been made for some years. The rentals were increased 20 percent wherever it seemed practical and we increased rentals 10 per cent in other cases.

We increased single rooms by 80 percent from $10 to $18, and squad rooms from $8 to $10. We also increased double rooms 100 percent from $8 to $16. I will put that in the record.

Mr. RABAUT. Supply it.

(The information requested follows:)

The following changes in the employees' allowances were made effective on January 20, 1952:

1. *Nonhousekeeping quarters (202 employees).*—

Type	Old rate per month	New rate per month
Single room	$10	$18
Double room	8	16
Squad room	8	10

2. *Housekeeping quarters.*—Gate houses: Park Road, First Street, Scale, Eagle. Increased 10 percent.

3. *Housekeeping quarters.*—Apartment, two-room (greenhouse). Remains unchanged.

4. *Housekeeping quarters.*—If not mentioned above, increased 20 percent. (Thirteen employees in 2, 3, and 4.)

5. *Laundry.*—Increased from $1.50 per month to $3 per month.

Mr. FORD. I wish to compliment your board on handling this problem. Perhaps more could be done, however. I wish we could get the Department of the Army and the Department of Defense to act as expeditiously.

That is all.

Mr. KERR. This rental that you get is the rent that some employee of the home pays who is working on the project?

Colonel CORDINER. They are essential employees like the electricians.

Mr. KERR. In other words, you pay him for the work and then you charge him for the rent if he comes and lives on the grounds?

Colonel CORDINER. Yes. That includes all the essential employees who are required to live on the grounds.

Mr. RABAUT. That is all. Thank you.

THURSDAY, JANUARY 31, 1952.

PANAMA CANAL COMPANY—CANAL ZONE GOVERNMENT

WITNESSES

BRIG. GEN. F. K. NEWCOMER, UNITED STATES ARMY (RETIRED), GOVERNOR OF THE CANAL ZONE AND PRESIDENT OF THE PANAMA CANAL COMPANY

B. F. BURDICK, CHIEF OF OFFICE, PANAMA CANAL COMPANY, WASHINGTON, D. C.

R. E. RAMSEY, ASSISTANT CHIEF OF OFFICE, PANAMA CANAL COMPANY, WASHINGTON, D. C.

CANAL ZONE GOVERNMENT

Amounts available for obligation

	1951 actual	1952 estimate	1953 estimate
Appropriation or estimate		$11,595,000	$17,815,800
Proposed supplemental due to pay increases		575,000	
Prior year balance available			416,870
Balance transferred from—			
"Maintenance and operation, Panama Canal"		6,757,922	
"Sanitation, Canal Zone, Panama Canal"		219,063	
"Civil government, Panama Canal and Canal Zone"		92,434	
Total available for obligation		19,239,419	18,232,670
Balance available in subsequent year		−416,870	
Obligations incurred		18,822,549	18,232,670
Comparative transfer from—			
"Sanitation, Canal Zone, Panama Canal"	$5,079,876		
"Civil government, Panama Canal and Canal Zone"	4,239,889		
Total obligations	9,319,765	18,822,549	18,232,670

Obligations by activities

Description	1951 actual	1952 estimate	1953 estimate
Obligations reimbursable to Treasury			
1. Governor's salary and expenses		$18,000	$18,000
2. Civil administration	$442,650	1,056,800	655,000
3. Schools	1,901,002	2,343,179	2,522,800
4. Police protection	1,326,734	1,524,500	1,442,200
5. Fire protection	455,080	460,000	481,000
6. Library	63,248	72,700	77,300
7. Courts	51,175	57,200	47,200
8. Highways and sewers		435,000	371,000
9. Hospitals	3,440,319	3,618,700	3,612,300
10. Other public health services	1,639,557	1,844,000	1,816,100
11. Proportion of employee's quarters operations		21,396	131,600
12. Cash relief prior to fiscal year 1951		70,000	65,000
Total reimbursable obligations	9,319,765	11,521,475	11,239,500
Obligations excepted from reimbursement to Treasury			
2. Civil administration:			
Customs and immigration			$269,700
Contraband control			53,100
Experiment gardens		$18,000	24,000
Total civil administration		18,000	346,800
7. Courts: District court			9,000
9. Hospitals:			
Corozal hospital		373,900	381,800
Palo Seco leprosarium		17,400	17,500
Total hospitals		391,300	399,300
10. Other public health services: Sanitation and garbage collection, Republic of Panama		347,300	344,700
13. Corrosion tests		102,200	102,200
14. Civil defense			30,000
15. Civil intelligence			74,300
16. Contributions to postal funds			370,000
Total nonreimbursable obligations		858,800	1,676,300
Total obligations, current operations	9,319,765	12,380,275	12,915,800
Capital outlay			
1. Noncontinuing construction		705,350	416,870
2. Quarters for employees		5,341,800	4,227,000
3. Road and street replacements		301,000	405,400
4. Steel mesh deck, Gamboa Bridge			94,000
5. Water supply main, Palo Seco Leprosarium			41,000
6. Rehabilitate Madden Highway			25,000
7. Miscellaneous minor improvements		20,000	20,000
8. Replacements and renewals of equipment		74,124	87,600
Total, capital outlay		6,442,274	5,316,870
Total obligations	9,319,765	18,822,549	18,232,670

Obligations by objects

Object classification	1951 actual	1952 estimate	1953 estimate
Total number of permanent positions:			
United States rate	1,187	1,180	1,170
Local rate	1,522	1,535	1,529
Full-time equivalent of all other positions:			
United States rate	14	11	17
Local rate	32	31	37
Average number of all employees:			
United States rate	1,191	1,185	1,181
Local rate	1,554	1,566	1,566
Average salaries and grades:			
General schedule grades, United States rate:			
Average salary	$5,095	$5,706	$5,830
Average grade	GS-6.4	GS-6.4	GS-6.4
Ungraded positions:			
Average salary:			
United States rate	$4,223	$4,643	$4,660
Local rate	996	1,065	1,087
01 Personal services:			
Permanent positions:			
United States rate	$5,140,699	$5,853,258	$5,876,080
Local rate	1,516,316	1,633,007	1,664,120
Part-time and temporary positions:			
United States rate	66,065	48,689	81,353
Local rate	32,748	31,471	36,419
Regular pay in excess of 52-week base: United States rate	33,457	45,206	46,318
Payments above basic rates:			
United States rate	114,822	122,144	123,840
Local rate	13,402	14,045	14,970
Payments to other agencies for reimbursable details, United States rate	182,255	200,000	200,000
Total personal services:			
United States rate	5,537,298	6,269,297	6,327,591
Local rate	1,562,466	1,678,523	1,715,509
02 Travel	73,338	156,375	160,400
03 Transportation of things	133,503	282,900	284,000
04 Communication services	29,216	61,100	64,000
05 Rents and utility services	38,397	80,300	78,600
06 Printing and reproduction	16,353	34,200	38,500
07 Other contractual services	1,312,799	1,444,055	1,451,800
Administrative expenses		75,200	105,500
General office expenses		446,000	441,700
Employment costs		608,400	611,400
Employees' quarters operations		21,396	132,600
08 Supplies and materials	537,600	1,126,929	1,117,700
09 Equipment	77,175	161,400	183,100
10 Lands and structures		6,374,574	5,252,270
11 Grants, subsidies, and contributions	1,620	1,900	269,000
Total obligations	9,319,765	18,822,549	18,232,670

Analysis of expenditures

	1951 actual	1952 estimate	1953 estimate
Unliquidated obligations, start of year		$485,993	$2,308,542
Obligations incurred during the year		18,822,549	18,232,670
		19,308,542	20,541,212
Deduct unliquidated obligations, end of year		2,308,542	2,941,212
Total expenditures		17,000,000	17,600,000
Expenditures are distributed as follows:			
Out of current authorizations		11,000,000	15,500,000
Out of prior authorizations		5,447,000	2,078,000
Out of anticipated 1952 supplemental due to pay increases		553,000	22,000

PANAMA CANAL COMPANY

Amounts available for administrative expenses

	1951 actual	1952 estimate	1953 estimate
Limitation or estimate	$820,000	$300,000	$500,000
Proposed supplemental limitation due to pay increases		20,000	
Total available for obligations	820,000	320,000	500,000
Unexpended balance	−25,300		
Total administrative expenses	794,700	320,000	500,000

Administrative expenses by activities

Description	1951 actual	1952 estimate	1953 estimate
1. Administration	$163,282		
2. Accounting	429,079		
3. New York office	157,854		
4. President's office and immediately related staff		$253,000	$301,000
5. Employment costs		16,100	17,500
6. General Accounting Office audit	44,485	49,500	181,500
7. Balance of expenses of 1949 not charged to limitation of the year because limitation was fully expended		1,400	
Total administrative expenses	794,700	320,000	500,000

Administrative expenses by objects

	1951 actual	1952 estimate	1953 estimate
UNITED STATES			
Total number of permanent positions	623	559	559
Full-time equivalent of all other positions	90	125	106
Average number of all employees	600	557	557
Average salaries and grades:			
General schedule grades:			
Average salary	$3,890	$4,401	$4,457
Average grade	GS–5.6	GS–5.7	GS–5.7
Ungraded positions: Average salary	$3,489	$3,736	$3,733
01 Personal services:			
Permanent positions	$2,170,133	$2,170,615	$2,175,721
Part-time and temporary positions	96,476	110,242	109,842
Regular pay in excess of 52-week base	1,334	4,243	2,837
Payment above basic rates	219,200	335,200	368,000
Total personal services	2,487,143	2,620,300	2,656,400
Deduct portion not chargeable to administrative expenses	2,367,004	2,620,300	2,656,400
Net personal services	120,139		
02 Travel	1,842		
03 Transportation of things	222		
04 Communication services	3,588		
05 Rents and utility services	12,919		
06 Printing and reproduction	1,047		
07 Other contractual services	17,389		
08 Supplies and materials	699		
09 Equipment	9		
Total, United States	157,854		

Administrative expenses by objects—Continued

	1951 actual	1952 estimate	1953 estimate
ISTHMUS			
Total number of permanent positions:			
United States rate		3,255	3,239
Local rate		10,345	10,002
Full-time equivalent of all other positions:			
United States rate		31	105
Local rate		3,360	3,641
Average number of all employees:			
United States rate		3,172	3,249
Local rate		13,705	13,643
Average salaries and grades:			
General schedule grades, United States rate:			
Average salary		$5,410	$5,485
Average grade		GS–5.9	GS–5.9
Crafts, protective, and custodial grades, United States rate:			
Average salary		$4,378	$4,462
Average grade		CPC–5.8	CPC–5.8
Ungraded positions:			
Average salary:			
United States rate		$5,233	$5,255
Local rate		1,128	1,141
01 Personal services:			
Permanent positions:			
United States rate		$16,655,010	$16,832,075
Local rate		11,673,984	11,411,179
Part-time and temporary positions:			
United States rate		142,779	472,470
Local rate		3,359,456	3,641,254
Regular pay in excess of 52-week base, United States rate		73,316	64,369
Payment above basic rates:			
United States rate		339,653	328,954
Local rate		553,402	543,999
Total personal services:			
United States rate		17,210,758	17,697,868
Local rate		15,586,842	15,596,432
Deduct portion not chargeable to administrative expenses		−32,590,100	−33,038,900
Net personal services		207,500	255,400
02 Travel		21,700	21,800
03 Transportation of things		2,300	2,300
04 Communication services		2,300	2,300
05 Rents and utility services		2,200	2,200
06 Printing and reproduction		1,200	1,200
07 Other contractual services	$592,361	16,900	16,900
General Accounting Office audit	44,485	49,500	181,500
Balance of expenses of 1949 not charged to limitation of that year because limitation was fully expended		1,400	
Administrative expenses in United States	157,854		
08 Supplies and materials		1,600	1,600
09 Equipment		900	900
11 Grants, subsidies, and contributions		12,500	13,900
Total administrative expenses	794,700	320,000	500,000

Mr. RABAUT. We have with us Brig. Gen. F. K. Newcomer, United States Army, retired, Governor of the Canal Zone and President of the Panama Canal Co. We certainly are glad to see him. We want to tell him that time is good to him. He looks as nice as he did last year.

Mr. KERR. He is always welcome before the committee.

Mr. RABAUT. Now, Mr. Reporter, please insert in the record pages 6, 7, 8, 31, 32 of the justifications.

(The pages referred to are as follows:)

Summary of estimates

	1952 estimate	1953 estimate	Increase (+) or decrease (−)
Appropriation or estimate	$11,595,000	$17,815,800	+$6,220,800
Proposed supplemental due to pay increases	575,000		−575,000
Prior year balance available		416,870	+416,870
Balance transferred from:			
"Maintenance and operation, Panama Canal"	6,757,922		−6,757,922
"Sanitation, Canal Zone, Panama Canal"	219,063		−219,063
"Civil government, Panama Canal and Canal Zone"	92,434		−92,434
Total available for obligation	19,239,419	18,232,670	−1,006,749
Balance available in subsequent year	−416,870		+416,870
Total obligations	18,822,549	18,232,670	−589,879
Financed by transfers from other appropriations as above	−6,652,549	−416,870	6,235,679
Appropriation (including supplemental or estimate)	12,170,000	17,815,800	+5,645,800

Comparative listing of obligations by activity

Gross obligations	1952 estimate	1953 estimate	Increase (+) or decrease (−)
Current operations			
1. Governor's salary and expenses	$18,000	$18,000	
2. Civil administration	1,074,800	1,001,800	−$73,000
3. Schools	2,343,179	2,522,800	+179,621
4. Police protection	1,524,500	1,442,200	−82,300
5. Fire protection	460,000	481,000	+21,000
6. Library	72,700	77,300	+4,600
7. Courts	57,200	56,200	−1,000
8. Highways and sewers	435,000	371,000	−64,000
9. Hospitals	4,010,000	4,011,600	+1,600
10. Other public health services	2,191,300	2,160,800	−30,500
11. Proportion of employees' quarters operations	21,396	131,600	+110,204
12. Cash relief prior to fiscal year 1951	70,000	65,000	−5,000
13. Corrosion tests	102,200	102,200	
14. Civil defense		30,000	+30,000
15. Civil intelligence		74,300	+74,300
16. Contribution to postal funds		370,000	+370,000
Total obligations, current operations	12,380,275	12,915,800	+535,525

Costs and allocation of costs

	1952 estimate	1953 estimate
Costs		
Appropriation or estimate	[1] $12,225,000	$17,815,800
Transfers from other appropriations	6,652,549	416,870
Total obligations	18,877,549	18,232,670
Deduct: Capital outlay (nonoperating)	−6,442,274	−5,316,870
Cost of Canal Zone Government operation from appropriated funds	12,435,275	12,915,800
Add: Depreciation (nonfund)	219,125	245,800
Gross operating costs to account for	12,654,400	13,161,600
Allocation of costs		
For deposit into Treasury: Current income from outside sources and other Government agencies	3,166,500	3,245,000
By the Panama Canal Company:		
Canal activity	7,409,600	7,172,600
Commercial activity	1,219,500	1,067,700
Net cost of Canal Zone Government	8,629,100	8,240,300
Total to be repaid to Treasury	11,795,600	11,485,300
Costs excepted from reimbursement:		
1. Customs and immigration		269,700
2. Contraband control		53,100
3. Experiment gardens	18,000	24,000
4. District court		9,000
5. Corozal hospital	373,900	381,800
6. Palo Seco leprosarium	17,400	17,500
7. Sanitation and garbage collection, Republic of Panama	347,300	344,700
8. Corrosion tests	102,200	102,200
9. Civil defense		30,000
10. Civil intelligence		74,300
11. Contribution to postal funds		370,000
Total from general funds of Treasury	858,800	1,676,300
Gross operating costs, accounted for	12,654,400	13,161,600

[1] Includes $55,000 supplemental appropriation to postal funds for pay increases which must be borne by the Panama Canal Company in 1952.

Mr. RABAUT. Have you a general statement for us, sir?

GENERAL STATEMENT

General NEWCOMER. The budgets for 1953 for the Canal Zone Government and the Panama Canal Company are the second budgets to be presented reflecting the changes in organization and financing resulting from the enactment of Public Law 841, Eighty-first Congress, which became effective July 1, 1951.

Essentially, Public Law 841 provided for the merger of the activities of the independent agency of the United States known as the Panama Canal, except the civil government of the Canal Zone, with those of the Government corporation known as the Panama Railroad Company. The name of the Panama Canal was changed to "Canal Zone Government" and the name of the Panama Railroad Company was changed to "Panama Canal Company." The Panama Canal enterprise, as now constituted, thus consists of two distinct but complementary and closely interrelated organizations, namely, one, the Canal Zone Government, financed by appropriations and charged with the performance of the various duties connected with civil government, including health, sanitation, and protection of the

Canal Zone, and two, the Panama Canal Company, financed from its own earnings to the extent possible and charged with the maintenance and operation of the waterway and the conduct of business incident to such maintenance and operation. The Company is required to reimburse the Treasury for the net costs of operation of the Canal Zone Government and to pay interest to the Treasury on the net direct investment of the United States in the Company at rates determined annually by the Secretary of the Treasury. The rate was set at 1.95 percent for fiscal year 1952 and 2 percent has been used in the estimates for fiscal year 1953.

The fiscal year 1952 budgets were submitted to the Congress approximately 6 months before the effective date of the extensive changes in organization and fiscal procedures prescribed by Public Law 841, and the present 1953 budgets were completed approximately 6 months after the reorganization became effective and were, of course, in preparation before that time. As a consequence of this, the budgets are now submitted before any appreciable experience has been gained or operating data have become available to reflect the effect of operations on the new basis, and before cost accounting and other fiscal procedures have been fully developed.

The estimates of both the Canal Zone Government and the Panama Canal Company are based on the assumption that the general level of business activity during fiscal year 1953 will be at approximately the fiscal year 1951 level.

CANAL ZONE GOVERNMENT

The estimated appropriation requirements for fiscal year 1953 as presented in the Canal Zone Government budget amount to $17,815,800 as compared to $11,595,000 appropriated for 1952. The increase of $6,220,800 does not, however, represent an increase in actual obligations because amounts were made available in fiscal year 1952 from balances transferred from appropriations of the Panama Canal totaling $6,652,549. There is a decrease in total requirements, therefore, of $589,879, the obligations for 1953 totaling $18,232,670 as compared with $18,822,549 in 1952.

The appropriation is based on gross requirements of the Canal Zone Government. Revenues from activities of the Canal Zone Government—except the postal system—which consist principally of income from hospital and medical services, school tuition, including an apportionment of cost to the armed services, and licenses, fees and fines, are repayable direct to the Treasury as miscellaneous receipts. The remaining net operating cost is repayable to the Treasury by the Panama Canal Company, except for certain specific items which are excepted because they represent obligations of the United States arising from treaty commitments or from the conduct of activities which do not pertain directly to the operation of the Panama Canal enterprise.

The total obligations of $18,232,670 consist of $12,915,800 for current operations, including $1,676,300 for nonreimbursable obligations, and $5,316,870 for capital outlay. Current operations consist of the usual functions of government, including civil administration, schools, police and fire protection, library, courts, hospitals and other health services, highways and sewers, security operations, and operation of the postal system. Expenditures for capital outlay are principally to pro-

vide for its part of the quarters program, consisting of site preparation, streets, sidewalks, sewers, fire-alarm systems, landscaping, public buildings consisting of elementary schools, fire stations, and medical clinics. They also provide for replacement of parts of the existing highway system, and hospital, police, and fire equipment.

PANAMA CANAL COMPANY

The operations of the Company are divided into three main categories: Canal activities, commercial activities, and service activities. The canal activities consist of those functions directly related to the waterway and transiting of ships, such as the marine operation, maintenance of the canal channel and locks, and the conduct of ship repair and mechanical shops. The commercial activities consist of the clubhouses, commissaries, hotels, marine bunkering, the trans-Isthmian railroad, the steamship line, and the cargo-handling activity, including operation of docks and piers. The service activities are those whose primary purpose is the servicing of the two other groups. They comprise the construction and maintenance units, the motor transportation facilities, the printing plant, the general storehouses, and the electric power, water and telephone systems. The net costs of the service activities are allocated to the Canal and commercial activities on the basis of the services performed for these two groups by the service group.

It is estimated that the 1953 operations of the Company as a whole will break even after paying the cost of Canal Zone Government and interest on the investment of the United States in the Company at a rate of 2 percent, totalling $14,467,800. Both the Canal and commercial activities as entities are also estimated to break even after absorbing a net cost in the service activities of $432,600.

In order to achieve the foregoing results, it is proposed to substantially reduce quarters maintenance expenses, practically eliminating them on quarters which will be replaced in the course of the housing program now under way, and to increase rates in other service activities and in commercial activities, effective March 1, 1952, sufficiently to produce increased income amounting to $550,000 in fiscal year 1952 and $2,525,900 in 1953. The proposed increases are necessarily tentative and are subject to such revisions as experience gained under the new organization and fiscal structure may indicate are necessary or desirable.

The capital expenditures of the Company for fiscal year 1953 are estimated at $14,401,000, of which $9,529,400 will be spent for employees' quarters in continuation of the large-scale housing program initiated by the Panama Canal. In fiscal year 1952, it is estimated that $13,531,900 will be spent for capital items, including $6,954,600 for housing. In order to supplement the financing of its capital program, which totals $27,932,900 for the 2 years, and to provide for possible and desirable acceleration of housing construction, it is expected that $3,000,000 will be borrowed in fiscal year 1952 from the revolving fund of $10,000,000 established by the Company in the Treasury. In 1953, it is anticipated that the remaining $7,000,000 will be borrowed and that an appropriation of $3,000,000 will be required in addition. This appropriation would constitute an increase

in the net direct investment of the United States in the Company under authority of section 246 (b) of the Panama Canal Company Act.

That covers my general statement, Mr. Chairman.

REVISION OF TOLL RATES

Mr. RABAUT. What are your present plans for any revision in the toll rates?

General NEWCOMER. That is a matter, of course, for consideration by the Board of Directors of the Panama Canal Company. It will be based on the experience that we gain in the operation under this new organization.

Mr. RABAUT. You sit with the directors, do you not?

General NEWCOMER. Yes, sir. I am a member of the Board of Directors.

Mr. RABAUT. That is what I thought. What consideration have they given to any change or revision in the toll rates? Has it been under consideration at all by the Board of Directors?

General NEWCOMER. It has been under consideration to the extent of determining whether up to the present time it is apparent that a change should be made and the conclusion has been reached by the board that they would not be justified, based on present data, with respect to costs and revenue, to come to any conclusion as to a change in rates.

Mr. RABAUT. With everything else being affected by the accelerated program and by inflationary tendencies, don't you think there should be a very deep study made of this with an idea that some sort of decision be made?

General NEWCOMER. It will be necessary, certainly, and based on the fact that the costs of operating the Canal have risen so greatly since the last change in the toll rates, it would appear from a cursory review of that situation that the toll rates unquestionably should go up. However, if we stop to analyze the basis of this new organization on which tolls are established, an immediate change is not so apparent when we reflect that more than $129 million was taken out of the capital investment of the United States in this enterprise on which interest is to be based, and the fact that the rate of interest as now established under the new law by the Secretary of the Treasury is lower than the target interest that we had tried to earn before this new organization.

Mr. RABAUT. When were the rates changed the last time?

General NEWCOMER. In 1937. They were established at that time by the President at 90 cents a ton with a maximum fixed by law of a dollar a ton.

(Discussion off the record.)

HOUSING OPERATION

Mr. RABAUT. General, please explain to the committee fully your housing operation.

General NEWCOMER. I will be glad to.

As an introduction I would like to explain, to those who have not been in the Canal Zone, we have an area there of about 500 square

miles in which are all Government employees or military personnel. The employees have to have housing provided for them because there is no other place for them to live. Their domiciles are located as close to the work as is possible to put them, which means that the population so far as the employees of the Canal Zone Government and the Panama Canal Company are concerned, are concentrated largely at the two ends of the Canal, the Atlantic and Pacific ends, with some smaller towns in-between because of work there to be done. They are now living in houses of all ages, somewhat over 50 percent of which date back to the construction days of houses built up to World War I, and in some construction-type houses, that is, camp-type houses built during the early part of the last war to take care of the great influx of employees during that war period.

Our present housing program which is long overdue, received favorable consideration from the Bureau of the Budget and from the Congress the first time beginning with fiscal year 1950. That program contemplates the removal of all of these old houses that are past their economic life, the cost of maintenance of which is now excessive and the spreading out of the population over a greater area due to less concentration at one point.

For instance, now we have as many as 20 families living on 1 acre of ground. Our objective is to have not more than five families to an acre. In other words, give these open-type houses more elbow room and greater privacy and circulation of air.

(Discussion off the record.)

General NEWCOMER. This program involves the building of about 4,100 sets of family quarters and about 1,300 units for bachelors. The types of houses that we are building are the most modern that we can design for that climate at economically feasible costs.

The result of this program will actually be a reduction in the number of quarters because we do have now, as a result of the reduction in force, a surplus number of quarters, all of which are occupied by someone not our own employees. However, we are now providing quarters on a rather extensive scale for the military forces, that is, the dependents, married people, either in uniform or their employees. We do not contemplate we will have that situation when we have finished our program. The program is designed to provide for our own employees and no more.

So, as a result of that, I say there will be an actual reduction in the number of quarters in existence when this program is finished. The program is complicated by the fact that to provide more space around the houses we have got to develop two new town sites and we have to have houses available for people to move into before in the present communities we can tear down the old houses and replace them with newer and fewer houses of the new type. We plan to finish this program in the fiscal year 1956. It is being financed, actually, ultimately, I would say, by the Panama Canal Company to the extent that depreciation and interest charges on this housing will be borne by the Company so that the Federal Government will get interest on its investment and, assuming that there are no replacements of these houses as time goes on, the money invested in the houses will ultimately be returned to the Treasury.

That, in brief, is the housing program.

Mr. RABAUT. Dollarwise, how large is the program?

General NEWCOMER. It will run about $70 million.

Mr. RABAUT. Over how many years?

General NEWCOMER. We plan now, we hope to finish it in the fiscal year, 1956. That, in effect, is 4 more years.

RENTAL POLICIES

Mr. RABAUT. Please explain to the committee fully your rental policies including any increases therein and the basis for the rental rate.

General NEWCOMER. I might say in response to that that our houses are now divided into three main groups: One, these that are going to be demolished within the next 2 years. There will be no rental increases in those houses according to our plan. But the rental secured from the occupants will practically cover the costs because we are eliminating maintenance costs on those houses. We are doing only enough maintenance to keep them usable from a safety viewpoint and from a sanitation viewpoint.

We have an intermediate set of houses that are not new.

Mr. RABAUT. What is the group in which you are going to do nothing about increases?

General NEWCOMER. Those are the houses that are so far past their economic life that they will be demolished.

Mr. FORD. You qualified the statement that the rent from those in this category would not pay for the expenses. Why will they not pay the expenses in toto?

General NEWCOMER. I think I said, practically pay the expenses.

Mr. FORD. I think that was the phraseology. Why did you have the qualification?

General NEWCOMER. It is very hard to say whether they are paying the expenses or not. You understand, the occupants of those houses pay rent at a rate that has been established for many, many years under Executive orders which said that rentals should include depreciation and the cost of maintenance and operation of the quarters. On those old quarters, rentals were established at that rate many years ago.

Mr. FORD. Is that not the best argument for the desirability of an increase?

General NEWCOMER. The point is that they are such poor quarters that we cannot justify an increase in rent to the people that are willing to put up with those quarters until they can get into something better. It just is not in the cards to charge those people more rent when the revenue at present from them is practically enough to keep the quarters going. As I say, we have discontinued maintenance expenses on those quarters

Mr. FORD. Yes, but on the other side of the argument, can you justify the rentals not paying for all the costs involved in this particular category?

General NEWCOMER. As I said, it is very difficult to determine what costs are unless you keep very elaborate accounts, what the costs on any one of those houses is. Suppose you have 1,000 houses as you do in this category. We get so much revenue from them as rental. That revenue under this new policy which has been in effect only the past 4 or 5 months of not spending any money on them does practically—I said practically—and I might even say it does cover the cost of administering those houses.

Mr. FORD. I think it would be desirable for the protection of the people who use the properties and the authorities there, to know whether or not, and then you would not have to qualify it by saying, practically paid up and so forth and so on.

General NEWCOMER. You understand, Mr. Ford, that the Company, which owns the houses, is responsible for paying into the Treasury certain prescribed amounts, enough to cover interest on the investment, and the cost of the Canal Zone Government.

Now, the Company does that. Whether it actually receives from the occupants of those houses enough to cover that particular obligation of the Company is a management problem. The Board of Directors has said: We recognize that the income from those houses may not cover fully their costs but we will make that up in some other way.

Mr. FORD. Either out of other people's rentals or out of tolls?

General NEWCOMER. Not out of tolls. We have to separate tolls from all of these other activities. They will make it out of rentals from other property or make it out of increased charges in the commissaries, raising the telephone rates, increased charges for power, a number of different sources from which the Company can get the revenue.

Based on the experience of the Company in those fields, it has been determined over the next 2 years when these houses will still be in existence that it would be inadvisable to attempt to raise the rental charges.

Mr. FORD. Even though it has been determined for many, many years, and even though the employees that used them had substantial increases in wages?

General NEWCOMER. That is true. To digress a minute from this cost of housing, they have also had the imposition of the income tax last year. That is a perfectly fair thing in my opinion, but it also means a very considerable reduction in their take-home pay. We have to recognize it as a practical thing to have suddenly subjected them to that condition from which they have been exempted for 30 years. Putting together all the factors that enter into our employee-management relations, it has been concluded that it would be inadvisable to attempt over the next rather short period to put into effect any changes in those rentals.

Mr. FORD. I did not mean to interrupt you at this point because you have several other categories to explain, but I think you can see as far as I am concerned I do not want any Federal housing built that will not be paid in toto over a period of years except through rentals by those who occupy it. If there is anything in your policy which prevents that, as far as I am concerned it has to be changed.

General NEWCOMER. If housing were the only activity we have, I would agree with you on that. But when the law says that the company is responsible for paying these things, it seems to me it is a management problem for the company to determine where it can

get the money to best advantage of everybody in order to meet its obligation.

The law does not contemplate that every activity of the company shall be self-supporting. It says that the company as a whole shall pay these sums to the Treasury annually.

As a management problem it should get the money from the best available source with least disturbance to its other problems of management.

Mr. FORD. Even though you break with long-standing policies in this country that when you pay rental, you are paying the amortized cost of the properties you occupy.

General NEWCOMER. For example, this is a corporation. That is what everybody has been emphasizing. We have got a corporation now which can conduct its affairs according to ordinary corporate practice. You take corporations whose operations are outside the continental limits of the United States. Almost invariably they furnish their employees with quarters at no expense. That is a common practice. We have it right in the Canal Zone—shipping interests, the United Fruit Co., and the Grace Line.

They have built quarters in the Canal Zone and their employees have free occupancy.

Mr. KERR. The owners have to pay taxes?

General NEWCOMER. The owners pay taxes, and, of course, the United Fruit Co. can adjust the price of bananas in order to cover that expense.

In response to Mr. Ford's question, that in effect is what we are doing. We are raising the money all right to pay the costs that the law requires us to pay but not from that specific operation, because it is not practicable to do it.

Mr. FORD. Please proceed. I am anxious to hear about the other categories.

VARIOUS TYPES OF QUARTERS

General NEWCOMER. We have another category of quarters in between these old ones and the new ones, quarters that were built, say, within the last 10 or 15 years that are perfectly adequate quarters, are in good physical shape and should be maintained for the balance of their lives, possibly 25 or 30 years. The revenues derived from the occupants of those quarters are not enough to cover the costs of their operations.

We are now reviewing the rental rates on those quarters with the expectation there will be some adjustment in the rents charged.

The third category of quarters takes care of the new ones, those we have built within the last 2 years and will build in the future. On those the rentals are established for each house on the basis of paying depreciation and the cost of maintenance and operation of those houses.

Mr. KERR. Most of the employees desire the new houses?

General NEWCOMER. Yes, sir. They are very anxious to move into them as they are built, move in at very considerably higher rentals than they have been accustomed to paying in the past.

Mr. FORD. What percentage in each category? You can supply that information for the record if you would like.

General NEWCOMER. I think I can give you very close to that; about 50 percent will be in the category of new houses.

Mr. FORD. As of what date?

General NEWCOMER. Upon completion of the program. This percentage varies every year. As we tear down old ones and build new ones, that is. About 50 percent will be in the category of new houses, about 10 percent in the category of the intermediate houses that are 10 to 15 years old but will be continued in service, and about 40 percent of those that will be demolished within the next 2 to 3 years.

Mr. FORD. Could I ask you to insert for the record a chart showing the kind of quarters in each category and the rentals charged?

General NEWCOMER. I am sure we can do that.

Mr. FORD. With some definition or explanatory material showing what kind of quarters there are.

General NEWCOMER. Yes.

Mr. FORD. I think it should also show the number you have in each category as of a determined date. Which date would be easier for you, January 1, February 1, last July 1, or what?

General NEWCOMER. I think June 30 of this year will be a convenient date for us to indicate the numbers.

Mr. FORD. June 30 of 1952?

General NEWCOMER. Yes.

(Information referred to is as follows:)

UNITED STATES RATE QUARTERS—ANTICIPATED STATUS AS OF JUNE 30, 1952

A. Quarters presently occupied but which are to be demolished:

Types: Multiple family, timber construction, on timber supports.

Number of units: Family, 2,096; bachelor, 528.

B. Quarters presently occupied and that have a further useful life of 20–30 years:

Types: Four-family, duplex, and single family, frame construction elevated on concrete columns.

Number of units: Family, 1,237; bachelor, 276.

C. New quarters built within the last 2 years and to be built in accomplishment of the program:

Types: Duplex and single, frame construction elevated on concrete columns, and masonry at ground level.

Number of units: Family, 1,730; bachelor, 620.

Rents charges for quarters in group A vary from $15.50 per month for a one-bedroom apartment in a 12-family frame building to $30 in a three-bedroom single-family frame building.

Rents charged for quarters on group B, which are being reviewed for necessary adjustments during the current fiscal year, vary from $35 per month in a three-bedroom, four-family house to $55 in a three-bedroom single-family house.

Rents charged for quarters in group C and the types of quarters are indicated in the following table:

Size	Enclosed area (average)	Rent per month	Total apartments
	Square feet		*Percent*
2 bedrooms, 4 families	1,200	$50–$60	15.0
2 bedrooms, 2 families	1,150	45– 55	16.8
3 bedrooms, 1 family	1,450	55– 70	20.0
3 bedrooms, 2 families	1,400	50– 65	22.5
4 bedrooms, 1 family	2,000	70– 80	3.0
4 bedrooms, 2 families	1,900	65– 75	7.0

CONSTRUCTION OF NEW HOUSING

Mr. FORD. Do you have a figure offhand you are requesting for construction for new housing this coming fiscal year?

General NEWCOMER. About $9 million under the Company's disbursements and about $4,200,000 under the Government's.

Mr. FORD. In other words, you are getting from the Federal Government $4,000,000 and $200,000?

General NEWCOMER. $4,227,000 I think is the exact figure.

Mr. FORD. You are getting that from the Federal Government for construction purposes?

General NEWCOMER. That is right.

Let me correct that. It is not for actual houses. It is for the Government's responsibility in connection with the housing program, namely, to provide streets, the land suitable for housing, the sewer mains and the street lighting.

Mr. FORD. Under the present set-up will those funds be repaid to the Federal Government with interest?

DEPRECIATION

General NEWCOMER. No. The law provides that the Canal Zone government does not pay interest on the Government's investment in its assets. It pays depreciation, but not interest.

Mr. FORD. But the Federal Government will be reimbursed through depreciation?

General NEWCOMER. That is right.

Mr. FORD. The Federal Treasury will get that money back from annual depreciation charges?

General NEWCOMER. That is right. The company has to raise that. The company has to pay the net costs of the Government. One of those costs is this depreciation on its property.

Mr. FORD. Last year the civil functions bill left out about $79,000 which had been set up for rentals. Am I correct in that recollection?

General NEWCOMER. As a charge against the Government for losses in connection with the housing activity.

Mr. FORD. How will you cover that during the current fiscal year?

General NEWCOMER. That is merely a matter of bookkeeping. As I said a moment ago, the company is charged with the net costs of Government. If the Government assumes a charge of, say, $90,000 in connection with the housing activity, at the end of the year it merely turns around and hands that back to the company as a charge to be borne by the company.

So if we do not set that up in the books originally, then it is not charged back to the company, but the company has to bear it anyway. It is an accounting problem actually.

Mr. FORD. That amount previously mentioned was deleted from the bill last year.

Mr. BURDICK. If it had been left, the company would have to pay that back. If it had not been deleted, the company would have had to reimburse the Treasury at the end of the year anyway for that item.

Mr. FORD. What did you request it for?

Mr. BURDICK. To show exactly where these costs originated and how the net costs of Government which the company pays are arrived

at. It was proper to show it as a cost of the Government which in turn would be paid by the company at the end of the year.

Mr. FORD. The deletion of that figure had no effect on increasing rentals as far as the properties were concerned?

General NEWCOMER. That is true. It becomes a very complicated problem under this new set-up of allocating these costs according to accounting principles which have no practical effect really. The books would show if that had been allowed to remain in there this number of dollars charged to the Canal Zone Government in connection with housing for people who worked for the Government, which however at the end of the year is borne by company anyway.

So instead of going through the process of showing that $71,000 is a cost to the Government and then handing it back to the company to pay, the company pays it direct.

Mr. FORD. The company pays it directly out of all earnings or revenues?

COST CHARGES

General NEWCOMER. That is right. As the budget is now set up, approximately five-sixths of this cost of government that is chargeable to the company is borne by the tolls activity of the company. The remaining one-sixth is the other businesses of the company.

Mr. FORD. Earlier I think you stated that the question of tolls would come up again about the 1st of July. Last year at the time of these hearings when we were discussing the same problem the same promise was made to us. There was no affirmative action taken with reference to tolls last July 1?

TOLL CHARGES

General NEWCOMER. You mean did I say the 1st of July 1951?

Mr. FORD. I am now quoting from page 23 of last year's hearings, and this is General Newcomer testifying:

> Under this new organization, we will, some time before the 1st of July, we hope, estimate what the tolls must be in the future in order to enable the company to do the things that the law requires, and we will announce those as prospective tolls, hold a public hearing and, based on the results of that, will conclude what the tolls must be and will recommend those to the President for his approval.

Was that done?

General NEWCOMER. It was done to the extent of our ability at that time to estimate what the tolls should be. The conclusion was reached at that time we could not justify an increase in tolls. Therefore, there was no public announcement for that, nor public hearings.

Mr. FORD. You could not justify an increase in tolls because of the law or because of the pure economics of the situation?

General NEWCOMER. It is the economics of it based on the law. It has to be a combination of the two.

Mr. FORD. When I said the economics of the thing, I meant as far as the shipowners were concerned. Certainly they can absorb an increase in tolls.

DETERMINATION OF AMOUNT OF TOLL CHARGES

Does the law prevent you from increasing tolls?

General NEWCOMER. The law specifies what shall be the basis for determining tolls. Of course, we are going to be watched very carefully by the shipping interests to make certain that we comply with the law in determining tolls. Up to the present time, based on actual revenues and expenses, there has been no justification for a recommendation to increase tolls.

Mr. FORD. When were tolls increased the last time?

DATE OF ESTABLISHMENT OF PRESENT TOLLS

General NEWCOMER. In 1937 the present tolls were established.

Mr. FORD. There has been no upward revision since 1937?

General NEWCOMER. No.

Mr. FORD. In the law which Congress passed a year or two ago, has it set out that those tolls are immobilized?

General NEWCOMER. No. In fact, they were mobilized to the extent of removing any ceiling from the tolls, but the law specifies how the tolls shall be computed.

Mr. FORD. They are immobilized in effect if you cannot, on the basis of your recent studies, increase them.

General NEWCOMER. They are not immobilized by law by saying that the tolls shall not exceed a certain amount.

Mr. FORD. I agree with you there, but in effect the way the legislation has been written they are immobilized.

General NEWCOMER. The effect up to the present time is that there is no justification for increasing the tolls based on the law.

Mr. FORD. A total of $4,676,300 is being requested of the committee. I do not quite understand that item. The breakdown to the zone Government, nonreimbursable, is $1,676,300, and the Canal Government has a deficit of $3 million.

General NEWCOMER. No. There is a total of $17,815,800 being requested as an appropriation to the Canal Zone Government.

Mr. FORD. What page is that?

General NEWCOMER. Page 6 of that justification in the table form there.

Mr. FORD. This is the net amount I have.

General NEWCOMER. Let us look on page 33 of the justification. There is a list of the items totaling $1,676,300 which I think is the one figure you mentioned.

Mr. FORD. That is correct. Could you give us some explanation of those figures?

General NEWCOMER. Yes. There are certain activities in the Canal Zone that have been carried on by the Federal Government under the former Panama Canal organization which are not related properly to functions, either of the present Canal Zone Government or of the Company.

Beginning with the first budget under this new organization we included in the appropriation certain things that are being done necessarily in the Canal Zone largely as a result of treaty commitments with the Republic of Panama for which the Federal Government of the United States carries the responsibility, rather than the local government there or the Company.

Mr. FORD. I can understand that for items under title (a) such as customs and immigration, $269,700, and contraband control, $53,100. But I fail to see how the second item, civil defense, would fall in that category.

The items set forth on page 33 of the justification totaling $1,656,300 are items which will be paid for, if approved, exclusively by the Federal Treasury?

General NEWCOMER. That is correct. Those costs will not be reimbursed to the Treasury by the Panama Canal Company.

Mr. FORD. You do not have any comparative chart that I have found on the justification showing the appropriations for fiscal year 1952 on these items. Could you insert in the record a chart showing that?

General NEWCOMER. May I call attention to page 715 of the printed budget? Down in the lower left-hand corner of page 715 is a list of items headed "Obligations excepted from reimbursement to Treasury," showing the amounts appropriated in 1952 and those requested in 1953.

Mr. FORD. That chart indicates in fiscal year 1952 there were no Federal appropriations for civil defense, none for intelligence, and none as a contribution to the postal fund.

General NEWCOMER. That is correct. And two others I should call your attention to, the first two in the list, customs and immigration and contraband control.

Mr. FORD. In other words, that would indicate there was a growing tendency to pass on to the Federal Treasury certain charges that the Canal Government and Company did not want to assume?

General NEWCOMER. I would hope it would not be described as a growing tendency because so far as I am concerned, it really is not that. But it is a development from last year due to the great haste with which the budget had to be prepared for the fiscal year of 1952. In fact, it had to be completely revised in about a week's time after the passage of this bill. We could not examine carefully all elements that went into it.

Mr. FORD. If by chance it was permissible under the law, and I think equitably it should be, could you not include these items in the figures you work up to figure out tolls?

General NEWCOMER. We think they would not be proper charges against the shipping that uses the Canal and pays tolls, because they are certainly not directly related to shipping. They are obligations that have been assumed by the United States in past years as a matter of good relations with Panama.

Mr. FORD. Here you have a good example. You have items totaling over $1,000,000.

General NEWCOMER. $1,676,300.

Mr. FORD. You are charging that against the Federal Treasury directly, nonreimbursable?

General NEWCOMER. That is right.

Mr. FORD. It has been decided they are not chargeable in figuring out your tolls but rather a burden on the Federal Treasury. The Federal Treasury is going into debt day after day and you have not increased tolls in the Panama Canal since 1937. It does not make sense.

General NEWCOMER. There is a lot in what you say as a theory that might well be followed in these cases. But as a practical matter it would not be possible under the law.

Mr. FORD. Is this committee being told under the law you cannot include those items in figuring up any possible increases in tolls?

General NEWCOMER. That is my interpretation of the law. Let us put it that way. It is the conclusion of many people who have worked on this that you could not adequately justify these operations as chargeable to tolls. But nevertheless they are operations that the Federal Government has been carrying on in the Canal Zone for some 40 years.

Mr. FORD. How about postal funds, have they been handled that way for many years?

General NEWCOMER. That particular thing this year is the first time we have needed to get any Federal assistance for our postal operation.

CIVIL INTELLIGENCE

Mr. FORD. Has that item, "Civil intelligence," been carried on for number of years?

General NEWCOMER. No. You are perfectly correct. I should not have made that broad statement. Civil defense and civil intelligence are activities that have been developed in the last few years as a result of the world situation.

CUSTOMS AND IMMIGRATION

Mr. FORD. How about "Customs and immigration"?

General NEWCOMER. That has been carried on ever since the Canal has been in operation.

CONTRABAND CONTROL

Mr. FORD. Contraband Control?

General NEWCOMER. That also.

INCREASED TOLLS COULD DEFRAY ADDITIONAL EXPENSES

Mr. FORD. If you look at the broad picture it just does not make sense for Congress to leave tolls where they are and have been since 1937 when legitimate increase could be used to defray a part of the cost of the operation in that area particularly when you look at the situation as far as the Federal Treasury is concerned.

General NEWCOMER. I agree with you. I would like to repeat again that in 1948 we attempted to have the tolls increased to the maximum permissible under the law at that time. At the request of Congress the President's action to increase tolls was deferred until a complete study of the operation of the then Panama Canal could be made. As a result of that study, Congress in 1950 passed this new law which imposes these conditions upon us.

Mr. FORD. If the law imposes the condition that you cannot charge these off to your tolls, then the law is faulty and should be revised. However, I do not think from my own knowledge of the law that you cannot make such charges against the tolls.

General NEWCOMER. It is a matter of interpretation of the law. The Bureau of the Budget has agreed with us, this is not all voluntary on our part.

Mr. FORD. Again in my judgment the Bureau of the Budget is wrong in some other things, particularly the matter of rentals on Defense Department projects. If they are the ones that have imposed this, they are wrong in this, too, in my judgment. Admittedly I might be wrong myself, but in my judgment it cannot be justifiably handled the way it is proposed.

General NEWCOMER. May I say again it results from a Federal policy of many, many years' standing, except those items you pointed out that are more recent in origin. These things have been done for many years at the expense of the Federal Government.

Mr. FORD. What will happen if Congress does not include any of these items? Would you then be prone to include them in your tolls?

General NEWCOMER. I would not like to go on record at the moment as to what would happen under those circumstances. It is difficult to tell.

NONREIMBURSABLE ITEMS

Mr. FORD. These nonreimbursable items of $3 million for the Canal Company, do those fall in the same category?

General NEWCOMER. No. That is an appropriation to the Company under the same conditions that all other appropriations in the past have been made to the Panama Canal and later transferred to the Company; namely, it is an appropriation on which the Company will pay interest and depreciation for the capital assets that are built as a result of that appropriation.

Mr. FORD. What was that figure last year?

General NEWCOMER. It was zero last year.

Mr. FORD. Just because you were starting on the new set-up?

General NEWCOMER. This is wholly due to the fact that the Company does not have enough cash of its own to carry this housing program through.

Mr. FORD. It is an advancement that will eventually be repaid?

General NEWCOMER. That is right.

Mr. FORD. That is all I have.

INCREASE IN SCHOOL COSTS

Mr. RABAUT. What is the reason for the increase in the school item?

General NEWCOMER. That relates wholly to increased enrollment and increased salaries.

Mr. RABAUT. What are your plans for civil-defense operations?

General NEWCOMER. To set up a small staff of about three people for the purpose of coordinating the voluntary civil defense activities that are carried on in the Canal Zone and to maintain a battery of sirens that have been installed throughout the Canal Zone.

Mr. RABAUT. Is this fund something new?

General NEWCOMER. No, sir.

POSTAL OPERATIONS

Mr. RABAUT. Explain to the committee your postal operations and why you need $370,000 for this work.

General NEWCOMER. For many years the Panama Canal has been authorized by law to operate its own postal system. Until the fiscal year 1953 about which we are now talking arrives, that system has been operated from its revenues. In other words, it has gotten no appropriation from the Congress. However, due to wage increases, the higher cost of transportation of mail without corresponding increases in postal rates, we have anticipated a deficit in that operation of $370,000 in the fiscal year 1953.

There is no other source from which we can get money.

Mr. RABAUT. Will you list for the record the postal revenues, expenditure, and stations maintained annually for the past 5 years?

General NEWCOMER. Yes; I will do that.

(Information referred to is as follows:)

CANAL ZONE POSTAL SERVICE

Operating results

	Expenses	Earnings	Net loss
Fiscal year 1947	$840,360.21	$739,895.77	$100,464.44
Fiscal year 1948	770,983.49	678,065.17	92,918.32
Fiscal year 1949	833,656.40	715,893.75	117,762.65
Fiscal year 1950	793,315.81	633,031.41	160,284.40
Fiscal year 1951	794,140.99	590,634.31	203,506.68

STATIONS MAINTAINED FOR PAST 5 YEARS

24 beginning of fiscal year 1947.
23 end of fiscal year 1947.
23 beginning and end of fiscal year 1948.
23 beginning and end of fiscal year 1949.
23 beginning of fiscal year 1950.
20 end of fiscal year 1950.
20 beginning and end of fiscal year 1951.

LOCATION OF POST OFFICES

Air Mail Field, Civil Affairs Building, Ancon
Albrook Air Force Base
Ancon
Balboa
Balboa Heights
Cocoli
Coco Solo
Cristobal
Curundu
Diablo Heights
Fort Amador
Fort Clayton
Fort Davis
Fort Gulick
Gamboa
Gatun
Howard Air Force Base (Fort Kobbe)
Margarita
Pedro Miguel
Rodman

JUSTIFICATION FOR EXCEPTING CERTAIN ACTIVITIES FROM REQUIREMENT OF REIMBURSING COST TO THE TREASURY

Mr. RABAUT. Explain to the committee the nature of the items excepted from reimbursement and the reason for their being excepted. You may take it item by item for the record.

General NEWCOMER. I will supply that.

(Information referred to is as follows:)

Item	Amount	Reasons for exceptions from reimbursement to Treasury
1. Customs and immigration	$269,700	Required by treaties with the Republic of Panama, customs and immigration work is performed largely for the protection of Panamanian revenue and in the enforcement of immigration regulations. Customs officers also enforce emergency export control regulations of the United States.
2. Contraband control	53,100	Prevention of smuggling into Panama of goods imported into or produced in the Canal Zone by the United States. This is required by treaty.
3. Experiment gardens	24,000	It is a means of contributing to the knowledge of tropical plants by the United States. Although the activity is desirable, it is not considered commercial in character nor properly chargeable to the Canal Zone Government.
4. District court	9,000	Incidental expenses of maintaining and operating facilities used by the United States district court which should be borne by the United States.
5. Corozal Hospital	381,800	This hospital provides mental treatment for the insane and domiciliary care for the aged and indigent. It has been in operation since 1915 and has been supported by the United States by appropriations.
6. Palo Seco Leprosarium	17,500	This leprosarium has been operated by the United States Government since 1907 as a matter of general welfare. The amount herein involved ($17,500) is the difference between the gross cost and the amount contributed by the Republic of Panama toward its support.
7. Sanitation and garbage collection, Republic of Panama.	344,700	The United States performs this work in the terminal cities of Panama and Colon pursuant to the treaty of 1903 with Panama.
8. Corrosion tests	102,200	This long-term metals corrosion project is to provide specific information regarding corrosion resistance and mechanical properties of various types of both ferrous and nonferrous metals and alloys. It embraces tropical fresh water, sea water, and atmospheric exposures. The results of this program will be useful to all Government agencies operating in tropical climates.
9. Civil defense	30,000	This item provides for a small staff to coordinate voluntary workers for training and the maintenance of an air-raid siren system. The necessity is due to the strategic importance of the Canal, and the cost should not be charged to the Company.
10. Civil intelligence	74,300	This item was discussed off the record.
11. Contribution to postal funds	370,000	Revenues derived from the Canal Zone postal service are available for its expenses. In 1953 revenues and prior year funds will be insufficient by $370,000 to meet expenses. This system is comparable to the United States postal system, and its revenues are dependent upon the postal rates established for the United States system.

TUITION CHARGES

Mr. DAVIS. Last year we had some discussion with you relative to the problem of the tuition charged for people who lived outside the Canal Zone. How has that been worked out since you were here last?

General NEWCOMER. It remains the same as it was last year, namely, those people residing outside the Canal Zone are required to pay the actual cost of tuitions.

Mr. DAVIS. Do you recall offhand about what that amounted to?

General NEWCOMER. I can give you some exact figures here for those outside of the Canal Zone. In grades from kindergarten through eighth grade they pay $190 a year in the white schools; $90 a year in the colored schools.

Those in grades 9 through 12 in the white schools pay $275 and in the colored schools $175.

The junior college is a separate activity. Not many students are involved there, but considerably higher rates. Would you like to have those?

Mr. DAVIS. I do not think that is necessary. The type of school where there has been quite a considerable change from the previous

year was what interested me. I do not believe there was any particular change with respect to tuition for the junior college, was there?

General NEWCOMER. No; it is the same.

Mr. RABAUT. Please insert in the record the table appearing on on page 38 of the justification and the paragraph preceding it also.

(Table referred to is as follows:)

The administrative expenses of the Company, comprising the cost of the president's office and staff and the cost of the General Accounting Office audit (which is estimated as $181,500), are estimated at $500,000 for the fiscal year 1953. Of this amount, $105,500 has been allocated to Canal Zone Government. The increase over the estimate for fiscal year 1952 of $320,000 (which includes a supplemental limitation due to pay increases of $20,000) amounts to $180,000, consisting of $48,000 in the president's office as a result of essential increases in the management staff; $1,400 in employment costs; and $132,000 in the cost of the General Accounting Office audit, based on estimates provided by the Corporation Audits Division.

A summary of program highlights follows:

	1953 estimates
Vessel transits	7,720
Tolls (including tolls credits)	$26,915,000
Ships berthed	3,500
Sales of commodities	$24,820,100
Percent of cost of commodities sold to sales of commodities	75%
Sales of services, including tolls and rents	$49,369,000
Depreciation charged to expenses	$4,779,500
Cost of Canal Zone Government charged to the Company	$8,175,300
Interest payable into U. S. Treasury	$6,292,500
Capital expenditures	$14,401,000

DISMANTLING OF COAL-HANDLING PLANT

Mr. RABAUT. What are your plans for dismantling your coal-handling plant and how will this be reflected on the Company books?

General NEWCOMER. There is a coal-handling plant at the Atlantic entrance of the Canal which is going out of business June 30 of this year. Its only purpose was to bunker ships, coal-burning ships, that pass through the Canal. That trade has practically disappeared.

The plant we have is in a bad state of disrepair. It would be quite expensive to put it back into usable condition.

So the plan is to completely dismantle it and the unloading part of the plant is already gone. That has been sold as scrap. The remainder of it after June 30 will be dismantled, sold as scrap and the undepreciated value of the plant will be written off as a charge against surplus of the Company.

Mr. RABAUT. Is there anything in the plant to be recaptured or will it all be sold as scrap?

General NEWCOMER. It will go entirely as scrap.

Mr. RABAUT. What are you doing toward notifying the industry and the ships that go through the canal and the companies that this coal facility will no longer be available so that somebody does not come in there and be caught without any coal?

General NEWCOMER. We did notify all of the shipping lines in the fall of 1950 we were going out of business.

Mr. KERR. What about the use of coal for private individuals in that area?

General NEWCOMER. There is no coal used there. It is entirely gas or electricity for cooking and hot-water heating. There is no heating problem at all.

Mr. RABAUT. How does that get in?

General NEWCOMER. It is piped in from Panama where they have artificial gas.

Mr. RABAUT. What would be the value of that write-off now? You can supply that for the record.

General NEWCOMER. I will.

(Information referred to is as follows:)

The amount to be written off will be approximately $150,000 less the scrap value of the structures.

PURCHASES FROM FEDERAL PRISON INDUSTRIES

Mr. RABAUT. To what extent are you purchasing from the Federal Prison Industries?

General NEWCOMER. I am sorry to say that I do not think we are purchasing from them. I do know the General Accounting Office in a recent audit of our New York office picked up the fact that we were not doing that. If we were not, as apparently we were not, it was merely an oversight, not realizing there was such a requirement.

Mr. RABAUT. Has any action been taken to correct it?

General NEWCOMER. Yes. This report of the General Accounting Office has been brought to the attention of our New York office. You understand that the failure to do that applies only to the activities of the Panama Line, the steamship line. It does not amount to anything actually in dollars and cents, but it is something we should be doing.

Mr. RABAUT. They make filing cabinets and many things that the Government can use.

General NEWCOMER. But I mean the failure to observe that law is on the part of that one office.

Mr. RABAUT. But the others could buy from the Federal Industries, too.

General NEWCOMER. The others are buying. Our Washington office buys for the Panama Canal and does observe that law.

INCREASE IN ADMINISTRATION COSTS

Mr. RABAUT. What is the reason for the $200,000 increase in the administrative expense limitation?

General NEWCOMER. That is the administrative expense of the Company which has been increased from $300,000 in the present fiscal year to $500,000 in the fiscal year of 1953. The largest part of that, $132,000, is the cost of the audit of the Company by the General Accounting Office. That has been ruled as one of the elements of our administrative expenses.

PURCHASE OF CAPITAL IMPROVEMENTS

Mr. DAVIS. Have you taken into consideration that there is a critical shortage of some of the materials that will be required in your capital improvement program? I have in mind particularly your spillway improvement and the purchase of 50 new steel boxcars and things of that kind.

General NEWCOMER. Yes. Our anticipated purchases are geared with that to the greatest extent possible. We have certain things that

we have to continue to operate if we are going to function as a canal. There is a very little critical material in what you mentioned. It is largely cement. Those 50 boxcars have been set up in our budget as a possible expenditure. Actually I think it will develop we will not buy those because of the factors you speak of—critical materials and high costs.

Mr. RABAUT. It is nice to have had you with us again, Governor. You always come here well prepared and you know your subject forward and backward. It is a good example of an executive.

General NEWCOMER. Thank you very much. I would like to say I appreciate the consideration this committee has given to our business, because this is probably the last time I will appear before you.

APPENDIX

(The following tables were referred to on p. 26:)

UNOBLIGATED BALANCES OF RIVER AND HARBOR PROJECTS IN CONSTRUCTION STATUS AS OF DECEMBER 31, 1951

Project	Unobligated balance		Estimated unobligated balance, June 30, 1952
	June 30, 1951	Dec. 31, 1951	
Alabama:			
Apalachicola, Chattahoochee, and Flint Rivers, Ala., Fla., and Ga.:			
Buford Dam, Ga	----------	$170,211	----------
Jim Woodruff lock and dam, Florida	----------	3,015,393	----------
Black Warrior, Warrior, and Tombigbee Rivers: Demopolis lock and dam, Alabama	----------	540,134	----------
Alaska:			
Nome Harbor	$8,892	89,710	----------
Wrangell Narrows	8,345	269,986	----------
Arkansas: Arkansas River and tributaries, Arkansas and Oklahoma	66,415	3,627,436	$45,000
California:			
Crescent City Harbor	7,952	----------	----------
Napa River	2,752	1,725	----------
Sacramento River	1,000	18,000	----------
San Diego River and Mission Bay	----------	192,902	35,000
Connecticut:			
Clinton Harbor	742	5,243	5,243
Greenwich Harbor	4,954	----------	----------
Mianus River	12,924	3,215	----------
New Haven Harbor	3,577	3,292	3,292
Norwalk Harbor	8,030	20,043	20,043
Delaware:			
Harbor of Refuge, Delaware Bay	20,000	19,900	----------
Indian River Bay	3,500	3,700	----------
District of Columbia: Potomac River, north side of Washington Channel	5,830	5,000	----------
Florida:			
Intracoastal Waterway, Jacksonville to Miami	85,679	1,189,354	55,258
Canaveral Harbor	138,035	103,698	----------
Jacksonville Harbor	11,893	13,394	----------
Georgia: Savannah Harbor	38,124	153,503	25,000
Illinois:			
Mississippi River between Missouri River, and Minneapolis (excluding St. Anthony Falls and lock 19, Keokuk)	3,706	120,108	----------
St. Anthony Falls, Minn	----------	857,639	80,000
Hastings, Minn	34,270	34,270	34,270
Illinois waterway	494,570	783,330	----------
Mississippi River between Ohio, and Missouri Rivers: Chain of Rocks	----------	1,653,744	169,200
Iowa: Missouri River, Kansas City to Sioux City (Kansas City and Omaha)	115,000	920,380	58,792
Louisiana:			
Gulf Intracoastal Waterway, Apalachee Bay, Fla., to the Mexican border (Algiers Cut-Off)	117,140	5,453,194	1,180 779
Calcasieu River	276,647	1,253,882	645,784
Waterway, Empire to the Gulf	43,754	41,879	----------
Pearl River	4,646	969,407	62,000

Unobligated Balances of River and Harbor Projects in Construction Status as of December 31, 1951—Continued

Project	Unobligated balance		Estimated unobligated balance, June 30, 1952
	June 30, 1951	Dec. 31, 1951	
Maine:			
Cape Porpoise Harbor	$2,064		
Josias River	3,755	$2,171	
Portland Harbor	17,738	21,416	$21,416
Maryland: Baltimore Harbor and channels	40,700	829,300	
Massachusetts:			
Boston Harbor	50,956	39,154	
Fall River Harbor	1,089	915	915
Menemsha Creek	6,547		
Michigan:			
Traverse City Harbor	11,654		
Manistee Harbor	570	570	
Grand Traverse Bay Harbor	779	779	
St. Marys River	−246,186	334,529	
Port Sanilac Harbor	58,086	3,102	
Missouri: Missouri River, Kansas City to the mouth	31,709	444,773	33,450
Montana: Missouri River at Fort Peck	261,334	996,327	50,000
New Jersey: New York and New Jersey channels	71,000	323,000	
New York:			
New York Harbor	700		
Hudson River channels	1,000	248,700	
Hudson River	18,400	18,400	
Great Lakes to Hudson River waterway	14,600	72,900	
Newark Bay, Hackensack and Passaic Rivers		29,000	1,000
Buffalo Harbor	22,564	337,753	25,000
Ohio:			
Cleveland Harbor	227,284	1,095,650	10,000
Lorain Harbor	17,290	11,717	
Ohio River open channel work	24,738	194,464	
Scioto River at Portsmouth	1,043	981	
Oregon:			
Columbia River at Bonneville	26,575	28,331	6,344
Columbia River at Bakers Bay	9,463	2,194	
Depoe Bay	10,127	2,121	
Coos Bay		22,155	
McNary lock and dam, Oregon and Washington	1,525,460	10,874,746	
The Dalles Dam, Oreg. and Wash	220,704	3,828,468	
Columbia River at Bonneville, restoring fish grounds	36,707	35,151	
Yaquina Bay and Harbor	6,824	4,285	
Pennsylvania:			
Monongahela River, Pa. and W. Va., locks 2, Pennsylvania	20,282	394,401	72,000
Morgantown lock and dam, West Virginia	14,250	71,669	
Schuylkill River, above Fairmount Dam	21,700	1,919,900	7,300
Chester River	1,500		
Tennessee:			
Cheatham lock and dam	44,376	798,928	
Old Hickory lock and dam	51,284	446,175	
Texas:			
Houston Ship Channel	58,808	834,031	8,500
Gulf Intracoastal Waterway (Galveston district)	48,270	128,074	7,500
Sabine-Neches waterway	180,753	376,215	9,000
Dam B	127,907	81,093	
Rhode Island: Harbor of refuge at Point Judith and Point Judith Pond	9,037		
Virginia:			
York Spit Channel	208,000	204,700	2,800
Norfolk Harbor	96,300	7,000	
Washington:			
Chief Joseph Dam	349,052	8,259,993	
Grays Harbor and Chehalis River	509,123	435,246	
West Virginia: Kanawha River	14,101	12,712	6,100
Total	5,748,364	55,306,861	86

Unobligated Balances for Projects in Construction Status as of December 31, 1951—Flood Control, General

Project	Unobligated balance		
	June 30, 1951	Dec. 31, 1951	June 30, 1952
Arkansas:			
Blakely Mountain Reservoir, Ark.	$140,046	$1,511,233	
Blue Mountain Reservoir	56,152	2,621	
Bull Shoals Reservoir, Ark. and Mo.	432,436	3,292,441	
Cardens bottom-drainage district No. 2	3,024	3,089	
Conway County levee districts Nos. 1, 2, and 8	2,512	2,473	
Conway County levee district No. 6	100	165	
Crawford County levee district	13,674	171,879	
Narrows Reservoir		150,497	
Nimrod Reservoir	28,437	4,803	
Norfolk Reservoir	84,750	18,556	
Pine Bluff		264,320	$20,000
Poplar Bluff to Knobel		59,392	
Red River levees and bank stabilization below Denison Dam, Ark., Tex., and La.	74,305	51,049	
West of Morrilton	955,805	902,513	
California:			
Cherry Valley Reservoir	17,361	99,000	
Farmington Reservoir	466,034	574,000	500,000
Folsom Reservoir	231,270	1,635,000	
Isabella Reservoir	150,000	1,296,000	
Los Angeles County drainage area	272,675	1,803,429	
Merced County stream group	42,133	282,000	245,000
Pine Flat Reservoir	253,787	1,656,000	
Prado Dam	132,983		
Sacramento major and minor tributaries	221,498	171,000	90,000
San Antonio Reservoir	567,133	1,410,201	
Whittier Narrows Dam	160,000	1,281,005	
Colorado:			
Cherry Creek Reservoir	14,753	43,605	
Colorado Springs	103,649	84,892	
Crede	21,214	1,611	
John Martin Reservoir	21,085	327	
Pueblo		212,657	10,400
Connecticut:			
East Hartford	3,078	3,078	3,078
Hartford	6,910	6,910	6,910
Mansfield Hollow Reservoir	113,280	1,920,660	
Norwich	5,855	370,855	370,000
Winsted	45,241	32,879	30,900
Florida: Central and southern	131,215	5,528,343	173,500
Georgia:			
Allatoona Reservoir	775,435	428,193	243,000
Clark Hill Reservoir, Ga. and S. C.	480,000	2,786,774	
Idaho:			
Albeni Falls Reservoir		4,866,050	
Lucky Peak Reservoir	218,786	2,474,327	
Illinois:			
Brookport	1,501	1,501	1,500
Chouteau Nameoki and Venice drainage and levee district	1,606	7,017	
Clear Creek drainage and levee district	2,898	1,414	
Coal Creek drainage and levee district	56,772	68,050	19,190
Columbia drainage and levee district No. 3	12,233	426,308	54,500
Degognia and Fountain Bluff drainage and levee district	15,485	16,666	1,600
East Cape Girardeau and Clear Creek drainage district	19,244	445,880	53,900
East St. Louis and vicinity	100,154	1,197,269	147,100
Farm Creek reservoirs	78,144	43,290	
Fort Chartres and Ivy Landing drainage and levee district	5,101	5,867	
Galena River	15,032	10,263	
Golconda	293	155	155
Grand Tower drainage and levee district	61,438	697,170	78,900
Harrisburg	122	228	228
Harrisonville and Ivy Landing drainage and levee district No. 2	13,778	14,087	
Lacey Langellier	15,940	14,460	26,000
Miller Pond drainage and levee district	9,589	30,096	16,600
Mounds and Mound City	116,778	86,294	63,000
Mouth of Sangamon	11,340	16,260	10,600
North Alexander drainage and levee district	1,270	1,270	
Prairie Du Rocher and vicinity	30,540	874,375	102,200
Preston drainage and levee district	4,766	11,771	
Reevesville	61,582	51,738	3,400
Rosiclare	61,632	43,970	3,400
Stringtown, St. Chartres and Ivy Landing drainage and levee district	20,146	30,403	4,400
Wilson, Wenkel and Prairie du Pont drainage and levee district	19,180	34,114	300
Wood River drainage and levee district	260,104	971,252	115,300

Unobligated Balances for Projects in Construction Status as of December 31, 1951—Flood Control, General—Continued

Project	Unobligated balance		
	June 30, 1951	Dec. 31, 1951	June 30, 1952
Indiana:			
Brevoort levee	$21,675	$21,921	$21,921
Cagles Mill Reservoir	783,658	624,114	476,000
Cannelton	93,147	77,462	76,000
Delphi	1,142	1,027	500
Evansville	72,722	71,424	70,000
Indianapolis	51,848	47,067	45,500
Jeffersonville-Clarksville	3,764	3,407	3,407
Lawrenceburg	77,176	71,295	68,000
Levee unit 8, White River	22,237	22,642	22,642
McGinnis levee	3,951	3,951	3,951
Muncie	4,483	4,349	4,329
New Albany	887,225	1,375,678	500,678
Tell City	1,966	1,335	----------
Vincennes	----------	288,600	----------
Iowa:			
Coralville Reservoir	1,678,800	1,511,758	150,000
Council Bluffs levees	36,890	19,510	----------
Kansas:			
Fall River Reservoir	5,979	1,268	----------
Hutchinson	27,479	1,659,042	----------
Kanopolis Reservoir	61,320	91,367	16,460
Kansas Citys, Mo. and Kans	655,260	4,629,429	----------
Missouri River agricultural levees, Kansas, Missouri, Iowa, and Nebraska	1,053,766	3,116,451	----------
Wichita and Valley Center	1,232,149	1,679,867	----------
Kentucky:			
Ashland	254,901	2,127,400	105,000
Covington	74,689	1,520,702	----------
Dewey Reservoir	139,238	132,557	71,700
Hawesville	176,908	43,211	4,000
Louisville	312,102	3,991,378	2,378
Maysville	157,964	1,057,230	----------
Newport	339,348	333,349	143,000
Paducah	99,378	31,279	1,000
Russell	14,042	17,743	2,000
Taylorsville	590	550	500
Uniontown	3,788	9,551	9,551
Wolf Creek Reservoir	153,006	3,094,587	100,000
Louisiana:			
Aloha-Regolette area	15,117	318,462	21,122
Bayou Bodeau Reservoir, Ark. and La	34,487	239,406	----------
Bayou Pierre in vicinity of Shreveport	13,463	23,663	----------
Bayou Teche and Vermilion River	27,062	162,968	----------
Bayou Rapides	13,076	3,680	----------
Jonesville	980	13,138	----------
Lake Pontchartrain	23,517	496	----------
Mermenteau River	70,834	406,168	----------
Natchitoches Parish	26,312	364,602	----------
Pineville	29,869	7,338	----------
Shreveport	13,193	8,059	----------
Maryland:			
Cumberland, Md., and Ridgeley, W. Va	37,697	889,560	----------
Savage River Reservoir	190,114	166,400	27,000
Massachusetts:			
Adams	76,581	265,300	20,000
Birch Hill Reservoir	382	56	----------
Chicopee	6,294	6,229	2,229
Holyoke	63,385	8,710	5,500
Knightville Reservoir	16,763	17,956	15,000
North Adams	51,811	423,500	26,000
Riverdale	8,069	6,578	5,000
Springdale	24,818	20,700	20,700
Tully Reservoir	3,256	2,852	----------
West Springfield	13,609	411,685	337
Michigan:			
Mount Clemens	60,946	52,758	----------
Red Run	322,166	119,831	----------
Minnesota:			
Aitkin	55,000	642,392	50,790
Lac qui Parle Reservoir	70,000	47,225	10,000
Red Lake and Clearwater Rivers	----------	74,109	44,800
Red River of the North, S. Dak., N. Dak., and Minn	48,000	781,976	99,286
Missouri:			
Chariton River, Mo. and Iowa	100,762	80,424	61,203
Clearwater Reservoir	463,394	388,492	----------
Perry County levee districts Nos. 1, 2, and 3	53,220	1,047,865	108,500
Nebraska:			
Bartley	8,270	9,352	1,659
Gavins Point Reservoir	77,219	1,996,323	----------
Harlan County Reservoir	2,621,239	520,767	1,346,377
Omaha	8,575	520	----------

UNOBLIGATED BALANCED FOR PROJECTS IN CONSTRUCTION STATUS AS OF DECEMBER 31, 1951—FLOOD CONTROL, GENERAL—Continued

Project	Unobligated balance		
	June 30, 1951	Dec. 31, 1951	June 30, 1952
New Hampshire:			
Blackwater Reservoir	$1,310	$476	
Edward MacDowell Reservoir	3,020	2,633	
Surry Mountain Reservoir	2,691	2,212	
Franklin Falls Reservoir	182	135	
New Mexico:			
Conchas Reservoir	4,416	342	
Jemez Canyon Reservoir	179,793	410,168	$10,600
New York:			
Addison	2,900		
Almond Reservoir	16,800	16,400	12,000
Arkport Reservoir	8,000	7,900	
Avoca	3,800		
Bath	1,700		
Binghamton	50,100	33,700	6,700
Canisteo	6,900	7,400	
Corning	3,500	3,147	
East Sidney	103,700	96,900	26,000
Elmira	88,000	80,000	21,600
Hoosick Falls	6,000	152,000	6,000
Hornell	101,900	59,400	8,700
Lancaster	1,671		
Lisle	5,800	5,600	
Montour Falls	59,865	33,568	35,000
Mount Morris Reservoir	191,392	781,496	50,000
Olean	48,546	507,626	360,000
Oxford	2,700	2,200	
Painted Post	3,800		
Portville	104,224	77,600	1,000
Syracuse	11,951	13,805	
Whitney Point Reservoir	12,100	6,800	1,500
Whitney Point Village	800		
North Carolina: John H. Kerr Reservoir	430,001	4,208,749	
North Dakota:			
Baldhill Reservoir	83,461	61,917	15,000
Garrison Reservoir	1,227,126	12,973,278	280,000
Homme Reservoir		56,074	
Mandan	74,188	73,782	70,000
Ohio:			
Berlin Reservoir	7,607	5,564	4,000
Burr Oak Reservoir	76,546	53,453	20,000
Cincinnati	40,149	39,780	39,780
Delaware Reservoir	165,324	158,479	131,100
Dillon Reservoir	178,785	55,950	100,000
Ironton	16,967	15,051	14,300
Massillon	134,349	64,368	18,300
Muskingum Reservoir	38,339	326,933	260,400
Portsmouth-New Boston	38,627	36,584	33,000
West Fork of Mill Creek Reservoir	799,936	777,261	612,000
Oklahoma:			
Canton Reservoir	2,462	1,488	1,400
Denison Reservoir, Tex. and Okla	47,941	414,854	
Fort Gibson Reservoir	681,064	1,478,235	
Fort Supply Reservoir	26,973	4,652	1,500
Great Salt Plains Reservoir	3,650	3,325	3,000
Hulah Reservoir, Okla. and Kans	200,670	267,753	216,989
Oologah Reservoir	80,475	78,899	78,830
Polecat Creek	120,554	115,284	24,000
Tenkiller Ferry Reservoir	125,995	469,829	
Wister Reservoir	44,751	60,527	55,200
Oregon:			
Amazon Creek	315,199	6,999	
Cottage Grove Reservoir	30,057	4,548	3,396
Detroit Reservoir	440,000	3,132,640	
Dorena Reservoir	396,112	445,302	16,163
Fern Ridge Reservoir	24,508	7,810	
Lookout Point Reservoir	440,000	719,892	
Milton Freewater	253,526	130,417	
Willamette River Bank protection	90,563	58,437	
Pennsylvania:			
Conemaugh Reservoir	231,504	2,597,976	
Each Branch Clarion River Reservoir	51,224	284,850	
Kingston-Edwardsville	20,936	4,100	3,000
Plymouth	26,761	25,400	2,400
Punxsutawney	28,544	10,182	5,000
Sunbury	103,075	65,000	8,600
Wilkes-Barre-Hanover Township	70,526	104,600	6,000
Williamsport	297,178	1,007,196	70,565
York	13,474	21,900	3,100

Unobligated Balances for Projects in Construction Status as of December 31, 1951—Flood Control, General—Con.

Project	Unobligated balance		
	June 30, 1951	Dec. 31, 1951	June 30, 1952
South Dakota:			
Fall River Basin	$12,000	$34,092	
Fort Randall Reservoir	980,041	10,907,949	
Oahe Reservoir	571,404	2,431,123	
Tennessee:			
Center Hill Reservoir	567,891	988,377	$30,000
Dale Hollow Reservoir, Tenn. and Ky	80,978	208,859	
Memphis, Wolf Creek, and Nonconnah Creek, Tenn	92,556	681,770	
Texas:			
Belton Reservoir	90,000	4,171,337	
Benbrook Reservoir	9,000	231,051	69,600
Fort Worth floodway	111,600	754,941	
Garza-Little Elm Reservoir	81,000	2,430,412	
Grapevine Reservoir	325,529	250,686	110,000
Hords Creek Reservoir	31,808	26,594	
Lavon Reservoir	36,000	931,510	
San Angelo Reservoir and floodway	220,039	652,186	226,000
Texarkana Reservoir	273,184	2,786,658	
Whitney Reservoir	100,947	2,956,549	
Utah: Redmond	14,058	11,000	
Vermont: Union Village Reservoir	7,396	47,030	2,500
Virginia:			
Galax	16,485	49,577	49,000
Philpott Reservoir	85,065	617,000	
Washington: Mud Mountain Reservoir	136,280	99,364	
West Virginia:			
Bluestone Reservoir	378,187	301,449	234,600
Elkins	27,803	14,136	5,000
Parkersburg	8,609	8,746	4,900
Point Pleasant	77,900	55,721	35,800
Sutton Reservoir	256,474	186,996	164,000
Total flood control, general	33,494,279	142,282,893	9,726,604
Flood control, Sacramento River, Calif	451,142	1,056,000	

(The following information was requested on p. 33:)

No commercial traffic has developed since last June on the upper Kentucky River and Big Sandy River. Commercial traffic has shown no material increase on the Muskingum River and upper White River. Total commerce on the Ouachita River system has increased from 118,427 tons in calendar year 1950 to 156,235 tons in 1951. Compilation of all data on traffic using locks Nos. 5, 6, and 8 on this waterway has not been completed. Detailed information and data are being collected as to the amount of prospective commerce that would use these waterways and warrant their continued operation in fiscal year 1953.

(The following information was requested on p. 47:)

Award to Corps of Engineers Employees

The Corps of Engineers inaugurated an Army suggestion program in 1943, which was designed to reward civilian employees who devise and perfect methods and procedures that improve and economize our military and civil works operations.

This particular award is the largest paid to an Army civilian employee since 1949 and is one of the top awards made since the program was put into practice.

Mr. Wendell H. Davis, a civilian engineer of the Corps of Engineers, has been awarded $1,606.55 for a suggestion that resulted in changing the method of duplicating architectural and structural drawings and designs from old-line conventional methods to a single positive-to-positive technique through the use of autopositive film and paper prints. The Corps of Engineers saved an estimated $982,000 in the first year after adopting this suggestion. It is estimated that the over-all savings, during the fiscal year 1951 for military operations amounted to about $3,400,000. Savings are not reflected in the civil works budget since the suggestion was not adaptable to the civil works program. Savings are reflected, however, throughout the entire operation of the Corps of Engineers on military work.

(The following information appears on p. 73:)

The Jim Woodruff lock and dam are founded on the Tampa limestone. This formation varies widely both horizontally and vertically in strength, ranging from a soft limestone to a dense dolomitic limestone. It is also characterized by numerous pockets and lenses of badly leached material. As a result, extensive subsurface investigations are required to establish the foundation grades and determine the extent of foundation treatment necessary for the structures to be located on this limestone.

The survey report investigations on which the original estimates were based were not sufficiently comprehensive to disclose many of the localized weaknesses of the underlying formation. It was found, during the definite project investigation, that deeper excavation would be required and more extensive grouting would be necessary to seal off the foundation. The increased construction cost resulting from these factors amounted to $1,994,000.

(The following information was requested on p. 84:)

Construction of a new lock at Keokuk will effect savings as follows:

(*a*) Elimination of traffic delays amounting to $200,000 or more annually.

(*b*) Reductions in repairs required to the old lock in the amount of about $2,500,000 spread over a period of 6 years.

In addition, a major structural failure, resulting in an extended closure of the old existing lock, would produce the following consequences:

(1) Loss in transportation savings of $12,400,000 or more per year for a minimum period of 2 years, during which time a replacement lock would be under construction at a greatly accelerated and uneconomic rate.

(2) Imposition of loads on alternate forms of transportation beyond their present capacity.

(3) Construction of expanded or replacement rail-terminal facilities.

(4) Losses due to redeployment of towing equipment and adjustments of trade relationships.

(5) Losses due to "trapping" of towing equipment above the dam.

(The following information appears on p. 91:)

On completion of work programed for accomplishment with funds made available through fiscal year 1952, it would be possible to terminate the existing contract at St. Anthony Falls for approximately $300,000.

(The following information appears on p. 169:)

The benefits for the Center Hill project, as estimated in connection with the budget requests for fiscal year 1951, were as follows:

	Estimated benefits	Percent of total
Flood control	$758,000	17.7
Power	3,515,000	82.0
Pollution abatement	11,000	.3
Total	4,284,000	100.0

Annual charges for this project were allocated by the Corps of Engineers in November 1950 as shown below, based on actual costs which had been incurred and estimates of cost for work remaining to be done. A final allocation will be prepared when all work at the project is completed and final costs are determined.

	Allocated annual charges	Percent of total
Flood control	$629,400	30.2
Power	1,452,700	69.8
Pollution abatement	0	0
Total	2,082,100	100.0

Costs of the Center Hill project were allocated to flood control and power on the basis of costs which would be necessary to provide for the two functions separately by means of alternative single-purpose projects. The method selected for allocation was chosen as distributing costs most equitably between the two functions, and resulted in a proportional sharing of the savings resulting from multiple-purpose construction.

(The following information was requested on p. 205:)

Projects Abandoned Annually Since 1946 and Savings on Each

Abandonment of authorized navigation improvements is not within the discretionary authority of the Chief of Engineers. In the past, the Chief of Engineers has recommended to Congress the abandonment of navigation projects at numerous locations but no action on those recommendations has been taken. For example, in House Document 467 of the Sixty-ninth Congress, the Chief of Engineers had detailed studies made of the desirability of abandoning 162 authorized navigation projects reported by field offices as possibilities for abandonment. Of this number, 23 were reported by the Chief of Engineers as worthy of continuance, 123 were reported to have served their usefulness and were recommended for abandonment and 16 were recommended for curtailment in scope.

The Corps of Engineers does not maintain channels or operate other facilities unless required for existing navigation. Many authorized navigation improvements have not been maintained for decades, and others have been maintained only at intermittent intervals as warranted by the needs of navigation. In this connection, there are approximately 240 navigation projects which have had no funds expended on them, either for construction or maintenance, since 1940.

Continuing effort is being directed toward the elimination of maintenance and operation costs on waterways where commerce is insufficient to warrant further expenditure of public funds. It may be noted that Federal navigation improvements have been authorized for more than 1,000 channels, harbors and localities whereas only about 175 are maintained on practically an annual basis.

Further information as to savings due to cessation of operation on obsolescent canalized waterways and the specific project recommended by the Chief of Engineers to be abandoned has been supplied the committee.

(The following information appears in p. 218:)

Funds obligated or available to Federal agencies through fiscal year 1952 for participating in comprehensive surveys of Arkansas-White-Red River Basins and New England-New York area

Department or agency	Arkansas-White-Red	New England-New York
Interior [1]	$3,279,400	$2,759,200
Agriculture [2]	776,000	440,000
Commerce [3]	90,000	30,000
Public Health Service	89,000	93,000
Federal Power Commission	50,000	45,000
Corps of Engineers	1,429,100	1,035,000
Total	5,713,500	4,402,200

[1] Obligations incurred by the Department of the Interior in connection with the interagency comprehensive survey of the resources of the Arkansas-White-Red River Basin amounted to $1,418,683 in 1951 and are estimated at $1,860,665 in 1952. The Department's obligations in connection with a similar survey in the New England States and the State of New York amounted to $1,241,477 in 1951 and are estimated at $1,517,679 in 1952. The amounts for both of these surveys are largely for surveys, mapping, and other activities which normally would have been conducted in these areas and include but comparatively small amounts for additional expenses or for acceleration of work attributable to the surveys. A breakdown as between these categories of obligations follows:

	1951	1952
Arkansas-White-Red River Basin:		
Normal program	$1,257,770	$1,605,400
Additional	160,913	255,265
Total	1,418,683	1,860,665
New England and New York:		
Normal program	1,224,614	1,332,214
Additional	16,863	185,465
Total	1,241,477	1,517,679

[2] There have been made available to the Department of Agriculture during the 2-year period ending June 30, 1952, for work relating to the general basin investigations in the Arkansas-White-Red area about $776,000 and in the New England-New York area about $440,000. Applicable data and information obtained in connection with regular programs of the Department and the cooperative activities with the States have also been made available for the use of the participating agencies.

[3] Exclusive of regular program of U. S. Coast and Geodetic Survey.

(The following information appears on p. 234:)

Levee and bank protection mileage and average unit cost

Fiscal year	Mississippi River levees		Off main river levees		Revetments	
	Miles built	Average cost per cubic yard	Miles built	Average cost per cubic yard	Miles built	Average cost per square
		Cents		*Cents*		
1948	35	26.6	51	30.5	10	$47.14
1949	[1] 46	34.3	139	34.9	14	50.62
1950	58	31.4	128	34.2	22	41.47
1951	[2] 60	31.9	44	36.6	25	36.62
1952 (estimate)	[3] 34	36.5	55	31.6	23	39.71

[1] In addition a reach of Cairo flood wall, 1.6 miles, was completed.
[2] In addition 2 reaches of Cairo flood wall and Hickman flood wall, 2.3 miles, were completed.
[3] In addition Dumaine St. flood wall, New Orleans, 0.6 mile, will be under way.

(The following information appears on p. 360:)

Missouri River agricultural levees

Proposed obligations of unobligated balance of $3,116,451 as of Dec. 31, 1951:

	Amount		*Amount*
Unit L627–624	$44, 000	Unit L448–443	508, 000
Unit L561–550	135, 000	Unit R440	178, 000
Unit L536	160, 000	Government costs and contingencies	124, 000
Unit R–580	75, 000	Alteration of drainage structures	27, 785
Government cost and contingencies	172, 000	Surfacing levee crests	200, 000
Engineering and design (Omaha district)	78, 666	Engineering and design (Kansas City district)	585, 000
Unit R513–512	396, 000		
Unit L488	185, 000	Total	3, 116, 451
Unit R482	171, 000		
Unit L476	77, 000		

(The following information appears on p. 382:)

Tuttle Creek Reservoir, Kans.

For fiscal year	Total estimated cost	Benefit to cost ratio	Request of Corps of Engineers to Bureau of Budget [1]	Amount appropriated [1]
1938	$27, 953, 000	1.1		
1939	[2]	[2]		
1940	[2]	[2]		
1941	[2]	[2]		
1942	[2]	[2]		
1943	[2]	[2]		
1944	[2]	[2]		[3] $64, 000
1945	[2]	[2]		[3] 80, 000
1946	[2]	[2]	[3] $300, 000	[3] 55, 000
1947	28, 000, 000	1.4	[3] 400, 000	[3] 14, 100
1948	35, 000, 000	[4]		
1949	40, 250, 000	1.26	[3] 200, 000	
1950	64, 305, 000	1.57		
1951	68, 164, 000	1.57		
1952	79, 132, 000	1.53	5, 000, 000	[3] 500, 000
1953	79, 132, 000	1.53	15, 500, 000	[5]

[1] Until recent years funds were appropriated in lump-sum amounts for planning which have been utilized on authorized projects as the need therefor developed. The amounts shown as requested of the Bureau of the Budget for these early years are from tentative lists of proposed allocations of the lump-sum request. However, the amounts shown as appropriated are the actual amounts made available for planning for the fiscal year concerned from the over-all planning appropriation.
[2] Same as for the original shown under fiscal year 1938 since no reanalysis of project economics was made for this period.
[3] Plans.
[4] No benefit-cost analysis made.
[5] Pending.

(The following tables are pertinent to projects on p. 487:)

Data on planning projects in 1953

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio
ARKANSAS					
Greers Ferry Reservoir	1938 Flood Control Act.	$7,179,000	[2]$16,531,000	$50,000	[3] 1.1
Table Rock Reservoir	1941 Flood Control Act.	37,000,000	76,340,000	100,000	1.38
CALIFORNIA					
San Antonio and Chino Creeks	1938 Flood Control Act.	12,400,000	10,400,000	40,000	[3] 1.1

See footnotes at end of table, p. 651.

Breakdown of benefits (in percent)	Power installation contemplated	Percentage of completing of plans [1]	Obligations in fiscal year 1951	National defense aspects
	Kilowatts	*Percent*		
Flood control... 28 Power..... 72	64,000	20	$56,900	The Greers Ferry project if constructed under existing authority would be constructed to sufficient height and with penstocks and other facilities to allow the later installation of power-generating facilities. Recent studies in response to a resolution of the Committee on Flood Control, House of Representatives, are virtually complete and show that modification to include generation of power is fully justified economically. Under the revised plan now being studied the Greers Ferry project will initially provide 64,000 kilowatts of dependable capacity (minimum peaking capability) and as the final unit is installed will provide 96,000 kilowatts of dependable capacity. The Southwestern Power Administration (marketing agency for power) recently committed 150,000 kilowatts for service to a new aluminum plant, an essential war industry, to be located in Arkansas, and urges that the Greers Ferry Reservoir project and other new projects in this area be started at the earliest possible date to permit fulfillment of its commitment. The power to be generated would be utilized in Arkansas, southern Missouri, and eastern Kansas. The recent investigations show that the market area for power includes many defense industries and Army and Navy posts, camps, and stations. The recent expansion of aluminum requirements and importance of power in connection with this expansion point toward the need for initiation of the project. The Middle South Utilities, Inc., parent holding company for the Arkansas Power & Light Co., is delivering an interim supply of continuous power amounting to about 100,000 kilowatts to the Tennessee Valley Authority for the specific defense purpose of expansion of the Oak Ridge Atomic Bomb Plant. Large blocks of power are being used in this region for natural gas and petroleum pipeline transmission, a very essential need for defense. Other defense projects which will consume large amounts of electrical energy are under construction in this area but cannot be identified due to security reasons. In addition, the project would provide flood-control benefits to about 886,000 acres of land along the Little Red and White Rivers downstream from the project, an agricultural area of major importance in food production.
Flood control... 21 Power..... 79	84,000	64	165,100	In addition to the 84,000 kilowatts of installed capacity and the 315,000,000 kilowatt-hours of primary energy per year to be produced by the Table Rock project, it will increase the primary energy output of the Bull Shoals plant by 130,000,000 kilowatt-hours annually and will increase the output of the Ozark Beach plant by 90,000,000 kilowatt-hours of primary energy. Construction of Table Rock will permit the addition of at least 2 more generating units at the Bull Shoals power plant, thereby increasing the installation at that plant by 80,000 kilowatts. As early as October 1949 the Southwestern Power Administration had negotiated contracts to dispose of the entire amount of firm energy that could be produced by the Norfolk, Bull Shoals, and Table Rock plants.
Flood control.. 100	.....	.....	.....	This project is a necessary adjunct to the San Antonio Reservoir which, under the construction program for fiscal year 1951, was certified as being in the interest of national defense. The dam and channel are coordinate parts of a flood-control project, each part being essential to the satisfactory operation of the other. Unless the channel is constructed in coordination with the dam, damage by driftage from the inadequate flood-protection improvement and undermining of bridge piers and abutments would cut all highway and railroad routes between Los Angeles and the east. 3 transcontinental railroads and 1 interconnecting carrier cross San Antonio Creek and are affected by its floods. They

Data on planning projects in 1953 budget,

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio
CALIFORNIA—continued					
DISTRICT OF COLUMBIA					
Anacostia River	1950 Flood Control Act.	4,531,200	7,336,000	50,000	1.26
HAWAII					
Kawainui Swamp	1950 Flood Control Act.	848,000	965,000	30,000	2.16
KANSAS					
Strawn Reservoir	1950 Flood Control Act.	16,405,000	19,810,000	100,00	1.08

See footnotes at end of table, p. 651.

flood control, general—Continued

Breakdown of benefits (in percent)	Power installation contemplated	Percentage of completing of plans [1]	Obligations in fiscal year 1951	National defense aspects
	Kilowatts	*Percent*		
				are the Union Pacific, Santa Fe, and Southern Pacific Railroads and the Pacific Electric. Normal daily traffic consists of 4,000 freight cars and 435 passenger cars. 80 percent of the total east-west traffic from Los Angeles moves across San Antonio Creek. In the flooded area and subject to isolation, damage, and shutdown from San Antonio Creek floods are 20 industrial plants including a $60,000,000 guided-missile plant now under construction, and the Pomona Pump Works employing over 400 people. Other improvements important to national defense crossing the channel and flood plain include several strategic major highways, the high-tension electric transmission line from Hoover Dam to Los Angeles, and a similar line from Hoover Dam to San Diego, which is now under construction. Any interruption to either highway or railroad transportation would adversely affect Kaiser Steel Mill (Fontana plant) only a few miles east.
Flood control... 53 Navigation..... 32 Recreation..... 15	.....	8	.....	Highway Routes U S 1 and U S 50 at their Peace Cross Junction are flooded on an average of 6 times annually, interrupting traffic to and from Washington and on Defense Highway. During fiscal year 1951 transportation at this point was interrupted a total of 29 days, 10 days of which occurred in June. During these periods, Government and commercial activities in the area were interrupted. Such interruption in the event necessity for evacuation of the city should arise would prove disastrous, especially if the bridges to Maryland on the Lower Anacostia River should become unusable.
Flood control...100	.....	40	.....	The town of Kailua, which will be protected by the proposed project, is a rapidly developing community directly serving the residential requirements of Kaneohe Naval Air Station and absorbing a large portion of the military and civilian personnel and their families stationed at Pearl Harbor and Hickam Air Force Base. Homes have increased at the rate of approximately 350 per year and a modern business district is also expanding to meet the needs of the growing community. About ¾ of the entire area undergoing development is subject to flooding. This town is in urgent need of flood protection. Kailua has experienced floods on the average of 1 every other year, with major floods occurring at the rate of 1 in 5 to 10 years. The flood of Mar. 25–27, 1951, affected 525 homes, about 200 of which had floodwaters within the houses, some as deep as 4 feet. Homes not flooded but surrounded by water were made useless by disruption of utilities and flooding of cesspools. Evacuation en masse was necessary. Under present conditions, recurrence of the 1951 storm would produce a general overflow in the Kailua area and cause damages of between $500,000 and $1,000,000. The Department of the Navy is urgently requesting construction of this project.
Flood control..... 78 Water supply and pollution abatement..... 10 Other..... 12	.....	32	.....	This project in conjunction with Marion, Cedar Point, and Council Grove Reservoirs will provide urgently needed flood protection to 210,000 acres of highly productive farm land and 11 municipalities and unincorporated villages. Losses from major floods only, which have occurred during the past 10 years, exclusive of the July 1951 flood, total about $20,000,000. Preliminary findings indicate that losses from the July 1951 flood alone will be considerably larger than this amount. The extent of the damages from this recent flooding clearly indicates the need to initiate a program for flood protection in this valley in order to eliminate such damages which adversely affect the Nation's economy.

Data on planning projects in 1953 budget,

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio
KENTUCKY					
Barbourville	1950 Flood Control Act.	$1,765,000	$2,040,000	$25,000	1.13
Jessamine Creek Reservoir	1938 and 1944 Flood Control Acts.	17,150,000	38,450,000	50,000	1.3
Pineville	1936 Flood Control Act.	444,200	1,540,000	25,000	1.5
MONTANA					
Libby Reservoir	1950 Flood Control Act.	239,077,000	263,562,000	200,000	1.62

See footnotes at end of table, p. 650.

flood control, general—Continued

Breakdown of benefits (in percent)	Power installation contemplated	Percentage of completing of plans [1]	Obligations in fiscal year 1951	National defense aspects
	Kilowatts	*Percent*		
Flood control.. 100	----------	----------	----------	The project is located in an important coal-producing area. The city lies in a comparatively level and broad flood plain which was almost entirely inundated by the 1946 flood. The town has experienced damaging floods annually with damages amounting to $310,300 for the 1951 flood alone. The proposed works will promote the health and safety of the residents, provide economical stability to the community and industry, and prevent interruption in the employment of inhabitants in coal-producing activities which are important to national defense.
Flood control... 72 Power..... 26 Other..... 2	13,900	15	$26,300	In view of the urgent need for power in this area studies now underway should be completed as soon as possible to determine accurately the power possibilities of this project. In addition to the power possibilities, the Jessamine Creek Reservoir is a valuable adjunct to the system of reservoirs for reduction of floods on the Ohio River. This project when completed will control the runoff from 64 percent (4,440 square miles) of the Kentucky River drainage basin, which stream is a major contribution to Ohio River floods. In addition, the project will afford a high degree of flood relief along the Lower Kentucky River. The project will give complete protection to Frankfort, Ky., the capital of the Commonwealth of Kentucky.
Flood control.. 100	----------	25	----------	The town is located in an important coal-producing area. The seriousness of the flood problem at Pineville, Ky., is characterized by the frequent flooding and heavy losses sustained during the 30-year period 1918–47, estimated as averaging $129,700 annually. The 1946 flood alone caused damages estimated at $1,451,500. The January–February 1951 flood caused damages estimated at $190,800, flooding 252 dwellings. The proposed works will result in benefits accruing from flood losses prevented and increased earning power of property in an estimated amount of $167,890 annually, which will greatly enhance the economic stability of the community, contribute to health and safety, and prevent interruptions in the employment of the inhabitants in coal-producing activities and the railroad yards which are important to national defense.
Flood control .. 8 Power..... 91 Other..... 1	618,000	3	----------	Planning funds for the Libby project are required to implement the President's proposal that construction of major hydroelectric power projects in northwest be accelerated. The Libby project is one of the most important authorized multiple-purpose projects in the Pacific Northwest and is scheduled to supply power to the northwest regional power system in 1958. Planning should begin now in order that storage could be available to downstream plants in the fall of 1958. Storage would increase average continuous power by 500,000 kilowatts for existing downstream plants including The Dalles and other plants presently under construction. By the addition of units at Libby in 1959, average continuous power of 271,000 kilowatts will be added in addition to the 500,000 kilowatts previously stated. Normal load growth indicates that this power will be required as soon as it becomes available. If the defense effort continues, the demand for Libby power will be intensified and in view of this possibility, immediate planning for its construction becomes mandatory. In addition to very important blocks of power that would be developed by the Libby project, normal storage and power operation will provide complete flood control for the highly developed agricultural area of 30,000 acres in the Kootenai Flats and will significantly decrease flood heights in the lower Columbia River.

Data on planning projects in 1953 budget,

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio
NEW MEXICO					
Chamita Reservoir	1948 and 1950 Flood Control Acts.	$30,833,000	$35,518,000	$85,000	[4] 1.22
Rio Grande Floodway	1948 and 1950 Flood Control Acts.	3,000,000	3,465,000	10,000	[4] 1.22
NEW YORK					
Batavia	1948 Flood Control Act.	565,000	714,000	20,000	2.3
Corning (Monkey Run portion)	1950 Flood Control Act.	2,370,000	2,789,000	25,000	1.8

See footnotes at end of table, p. 650.

flood control, general—Continued

Breakdown of benefits (in percent)	Power installation contemplated	Percentage of completing of plans [1]	Obligations in fiscal year 1951	National defense aspects
	Kilowatts	*Percent*		
Flood control...100		27	$105,200	This project is one of the primary flood and sediment control units in the plan of improvement for the Rio Grande Valley. The project will reduce the flood hazard to the city of Albuquerque, N. Mex. In the past few years Albuquerque, N. Mex., has become the center of the greatest national defense areas in the United States. Two Atomic Energy Commission installations, the Los Alamos Scientific Laboratory and the special weapons project at Sandia Base, and the Kirtland Air Force Base would be vitally affected by floods on the Rio Grande because of their dependence on the rail transportation facilities of Albuquerque. Public utilities, such as water, electric power, gas, and sewage disposal for Kirtland Base and Sandia Base are all linked into the city system. Any flood which interrupted service of these utilities would likewise seriously interrupt service at these installations.
Flood control...100		28	34,700	This project is one of the primary flood and sediment control units in the plan of improvement for the Rio Grande Valley. The project will reduce the flood hazard to the city of Albuquerque, N. Mex. In the past few years Albuquerque, N. Mex., has become the center of one of the greatest national defense areas in the United States. Two Atomic Energy Commission installations, the Los Alamos Scientific Laboratory and the special weapons project at Sandia Base, and the Kirtland Air Force Base would be vitally affected by floods on the Rio Grande because of their dependence on the rail transportation facilities of Albuquerque. Public utilities such as water, electric power, gas and sewage disposal for Kirtland Base and Sandia Base are all linked into the city system. Any flood which interrupted service of these utilities would likewise seriously interrupt service at these installations.
Flood control...100		31		Flooding at Batavia interferes with defense production at the plant of the Doehler Die Casting Co. and delays traffic on State Highways 5 and 33, both of which carry large amounts of commercial traffic. The project consists principally of channel excavation and placing riprap and will require only small quantities of critical materials.
Flood control...100		31		The project will eliminate a flood hazard to residents, provide protection to commercial establishments, and will prevent interruption, by flooding, to the operations of the Corning Glass Works, which is the principal industry in the city, a factor in the national economy, and a very important contributor to the national defense in times of emergency. The main plant and research laboratores of Corning Glass Works are located in the area to be protected. The glass works has been certified as a critical defense plant by the National Munitions Board, and the National Production Authority has given its approval and recommendation for construction. The plant and laboratory are of major importance in the present defense program and it is essential that it continue functioning without interruption caused almost yearly by floods. The plant is the major or sole source of supply for many of the military and essential civilian products, a partial list of which includes: (*a*) Bulbs, tubing, and flares for use in radar, radio, and other electronic tubes, (*b*) optical glass for use in bomb sights, tank periscopes, fire-control instruments, and aerial camera lenses, (*c*) glass pipe for use in atomic energy plants and in plants producing chemicals used in the manufacture of rocket fuels, (*d*) glassware used in Government and industrial research laboratories, (*e*) glassware used in the manufacture of pharmaceuticals, clinical and industrial thermometers, blueprint machines, beacon and airport lighting, and signaling devices for aircraft, railroads, and ships.

Data on planning projects in 1953 budget,

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio
NEW YORK—continued					
Wellsville	1950 Flood Control Act.	$581,000	$792,000	$25,000	1.38
OKLAHOMA					
Keystone Reservoir	1950 Flood Control Act.	89,500,000	126,750,000	150,000	1.19
OREGON					
Hills Creek Reservoir	1950 Flood Control Act.	23,721,000	27,187,000	125,000	1.96
PENNSYLVANIA					
Allentown	1946 Flood Control Act.	741,000	1,775,000	35,000	[1] 1.09
Swoyersville-Forty Fort	1936 Flood Control Act.	529,800	3,416,000	30,000	[2] 2.69

See footnotes at end of table, p. 650.

flood control, general—Continued

Breakdown of benefits (in percent)	Power installation contemplated	Percentage of completing of plans [1]	Obligations in fiscal year 1951	National defense aspects
	Kilowatts	*Percent*		
Flood control.. 100	.....	.....	.....	Flooding at Wellsville affects production at the Sinclair Refining Co., Air Preheater Co., Julius Kayser Co., and Bausch & Lomb Co. Flooding usually also causes water and power stoppages at plants outside the flood area. All the plants, except the new Bausch & Lomb plant, supplied equipment for the Armed Forces in World War II, and are important in the expanded defense effort.
Flood control.... 33 Navigation..... 44 Power..... 23	60,000	9	$1,400	Keystone is a key project in the system of existing and authorized reservoir for control of floods on both the Arkansas and Cimarron Rivers. The power installation of Keytsone Reservoir proposed in the survey report totals 25,000 kilowatts. The Federal Power Commission has advised that the ultimate power installation for this project should total 60,000 kilowatts. The estimated energy which would be generated by the project based on the survey report totals 169,000,000 kilowatt-hours annually. This energy would be set into the interconnected system of hydroelectric plants which are completed and in operation at the present time consisting of Denison Dam (Lake Texoma), Norfolk, and Pensacola Reservoirs and the projects which are under construction consisting of Fort Gibson, Tenkiller Ferry, and Bull Shoals Reservoir. A market for the power output from Keystone Reservoir will exist upon completion of the project. In the event that the present international situation continues, it is apparent that the power shortage will become acute in the area.
Flood control.. 64 Power..... 17 Irrigation..... 5 Navigation.... 3 Other..... 11	20,000	5	.....	The Hills Creek Reservoir is required to provide urgently needed flood-control storage, which storage under present conditions must be supplied by Lookout Point Reservoir. This seriously decreases the power potentially of the Lookout Point Reservoir. With the authorized projects of Lookout Point, Hills Creek, and Dexter, a total installation of 149,000 kilowatts would be provided to produce 54,100 kilowatts of continuous power and 107,600 kilowatts of dependable peaking capacity for the 7 critical months, October to April. For Lookout Point and Dexter, with provision of required flood-control storage in Lookout Point, the installed capacity would be 129,000 kilowatts, continuous power 27,300 kilowatts, and dependable peaking capacity 10,900 kilowatts. Construction of Hills Creek Reservoir will thus enable the provision of an additional 26,800 kilowatts of continuous power and 96,700 kilowatts peaking capacity. In addition, the operation of 3 reservoir systems will provide maximum flood control which will also contribute to the defense effort by protection of manufacturing and industrial areas, particularly the lumber industry, as well as relatively important food producing areas.
Flood control.. 100	.....	27	600	Within the flooded area and subject to damage by floods, there are 30 large industries including: Mack Truck, Allentown Iron Works, Aldrich Pump Co., Arbogast & Bastian, Inc. (meat packers), and Phoenix Silk Co., (uniform makers). As of April 1951, 19 of these industries were or expected to be engaged in defense work. Other industries in the surrounding area engaged in defense work are also affected by disruption of railroad and highway facilities in the flooded area.
Flood control.. 100	.....	50	6,100	The project, when completed, will provide protection for the Boroughs of Swoyersville, Forty Fort, and a portion of Wyoming, West Wyoming, and Exeter and will supplement protection for Kingston and Edwardsville, Pa. These communities are in the heart of the anthracite coal region and contain highly productive anthracite coal mines, whose uninterrupted production is important to the national defense and public welfare.

Data on planning projects in 1953 budget,

State and project	Authorising legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio
PENNSYLVANIA—continued					
TEXAS					
Dallas floodway	1945 River and Harbor Act and 1950 Flood Control Act.	$4,200,000	$7,936,500	$100,000	[7] 1.84
VERMONT					
Victory Reservoir	1936, 1938, and 1941 Flood Control Acts.	1,415,000	4,022,000	75,000	2.6

See footnotes at end of table, p. 650.

flood control, general—Continued

Breakdown of benefits (in percent)	Power installation contemplated	Percentage of completing of plans [1]	Obligations in fiscal year 1951	National defense aspects
	Kilowatts	*Percent*		The Wilkes-Barre Wyoming Valley Airport, certain facilities of which are now utilized by the U. S. Army Air Force, lies within the protected area as does a section of the main arterial highway, US 11, and railroad lines which suffer damages and interruption of traffic one or more times each year. In addition to providing protection for the above communities, this project will prevent the outflanking of the existing protective system for Kingston-Edwardsville, located contiguously downstream from Swoyersville-Forty Fort. Mine subsidence in the area beyond the upstream end of the existing protection for Kingston has encroached upon the natural divide between these communities. The potential danger to Kingston through loss of the natural barrier by further subsidence will be eliminated upon completion of the Swoyersville-Forty Fort project. The Swoyersville-Forty Fort area is a part of the Kingston-Edwardsville metropolitan area, of which it is an interdependent section from an economic and social standpoint.
Flood control... 78 Water conservation..... 22	-------	54	$22,100	The area to be protected by the authorized project includes the principal businesses, industries, warehouses, and transportation facilities of this important distribution and communications center. Located in this area are approximately 500 business and industrial establishments including machine shops, foundries, manufacturers of butane and natural gas tanks for residential installations, welding shops, structural steel fabricators, machinery manufacturer representatives, and service and parts distributors; 58 warehouses, including the world's largest refrigerated warehouse, which has a storage capacity sufficient to refrigerate 100,000,000 pounds of perishable foods and provide cool, dry storage of 25,000 carloads of food products and in which are presently stored by the Government large quantities of food products. Also included in the area are the rail lines of the Santa Fe, Rock Island, Texas & Pacific, Missouri-Kansas-Texas, Texas & New Orleans, and Cotton Belt Railroads over which pass daily approximately 25 passenger and 36 freight trains. Damages which would result from the occurrence of a flood of the design flood magnitude are estimated at $151,000,000. Large industries in the area, many of them directly involved in the production of war materials, such as bombshell casings, petroleum, nitrates, rocket points, and other work being done for the Atomic Energy Commission, would all be put out of commission in the event of such a flood. Highway traffic using the 10 bridges crossing the flood plain, and which connect the western residential area with the eastern commercial area of Dallas, would come to a standstill since the eastern sector of the city would be separated from the western sector by an impassable barrier of water. This lack of communication facilities would cause a near shut-down of all the business and offices in the eastern section of Dallas and would materially affect the production and operation of aircraft and other defense plants within a 15-mile radius of Dallas since many of the employees of these plants reside in Dallas.
Flood control... 13 Water conservation..... 87	-------	20	-------	The Victory Reservoir will provide important low-water regulation and water conservation. The regulated flow will increase the minimum flow at existing downstream hydroelectric power developments. This will increase their firm capacity by 16,300 kilowatts and will provide an additional 6,100,000 kilowatt hours of power annually. The existing hydroelectric developments directly serve defense manufacturing plants in Holyoke, Chicopee, and Springfield, Mass., and Hartford, Conn. Many plants presently engaged in the manufacture of war materials are located in this area.

Data on planning projects in 1953 budget,

State and project	Authorizing legislation	Estimated Federal cost at time of authorization	Present estimated Federal cost	Approved budget estimate, fiscal year 1953	Benefit-to-cost ratio
VIRGINIA					
Gathright and Falling Spring Reservoir	1946 and 1948 Flood Control Acts.	$11,000,000	$22,400,000	$100,000	1.36
WEST VIRGINIA					
Wheeling-Benwood	1938 Flood Control Act.	12,083,000	15,580,000	50,000	1.31

[1] End of fiscal year 1952.
[2] The estimated cost shown is for the flood control only project. The breakdown of benefits and the benefit-to-cost ratio shown are based on present plans for the construction of a multiple-purpose reservoir with power-generating facilities. The provision of power facilities is recommended in the report on the White River Basin now under review by the Board of Engineers for Rivers and Harbors.
[3] Benefits and benefit-to-cost ratio shown are for the complete plan for flood control on San Antonio and Chino Creeks including San Antonio Reservoir.
[4] Benefits and benefit-to-cost ratio shown are for the basin plan.

flood control, general—Continued

Breakdown of benefits (in percent)	Power installation contemplated	Percentage of completing of plans [1]	Obligations in fiscal year 1951	National defense aspects
	Kilowatts	*Percent*		
Flood control....10 Power.....60 Pollution abatement.....30	34,000	.....	.....	The Southeastern Power Administration of the Department of the Interior endorses the construction of the Gathright Falling Springs project from the standpoint of power. Gathright is situated near the western end of the Virginia Electric Power Co. system in an area to which the company must import power. Power from the project would be absorbed along the northwestern border of Virginia. In addition to the power benefits from this project, 2 paper mills will be benefited from the standpoint of flood control by the construction of this project. These plants, which are important to the national defense effort, are located at Covington and Big Island, Va., and produce several thousand tons of paper and paper products monthly, including such byproducts as activated carbon, calcium carbonate, distilled tall oil, pitch, and turpentine.
Flood control.. 100	.....	39	$50,300	The project is a local flood protection improvement for Wheeling and Benwood, W. Va. Wheeling is the main business center of the surrounding manufacturing area which contains important iron and steel plants, foundries, potteries, and food-processing plants. The principal industries of Benwood consist of 2 large steel plants, together with numerous small manufacturing concerns. Representative major industries engaged in defense work and production of defense materials within the area proposed for protection are Hazel-Atlas Glass Co.; Wheeling Structural Steel Co.; Wheeling Tile Co.; Continental Can Co.; Wheeling Steel Corp. (Benwood Works); and Wheeling Stamping Co. The proposed plan of improvement will provide protection to about 540 acres containing the main business sections of the 2 cities, industrial installations, a residential population of about 6,500 people, 3 major railroads, various utilities, and municipal properties.

[6] Benefits and benefit-to-cost ratio shown are for the basin plan, including Bear Creek Reservoir and Allentown.

[6] Based on costs and benefits derived from project in conjunction with Kingston-Edwardsville project of which it will form an integral part.

[7] Benefits and benefit-to-cost ratio shown are from the comprehensive plan of improvement including Garza-Little Elm Reservoir, Grapevine Reservoir, Dallas floodway, and interior drainage facilities at Dallas.

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